New as of: 10.2014

sirona
The Dental Company

DUMC

Service Manual for Dental Unit Management Console

English

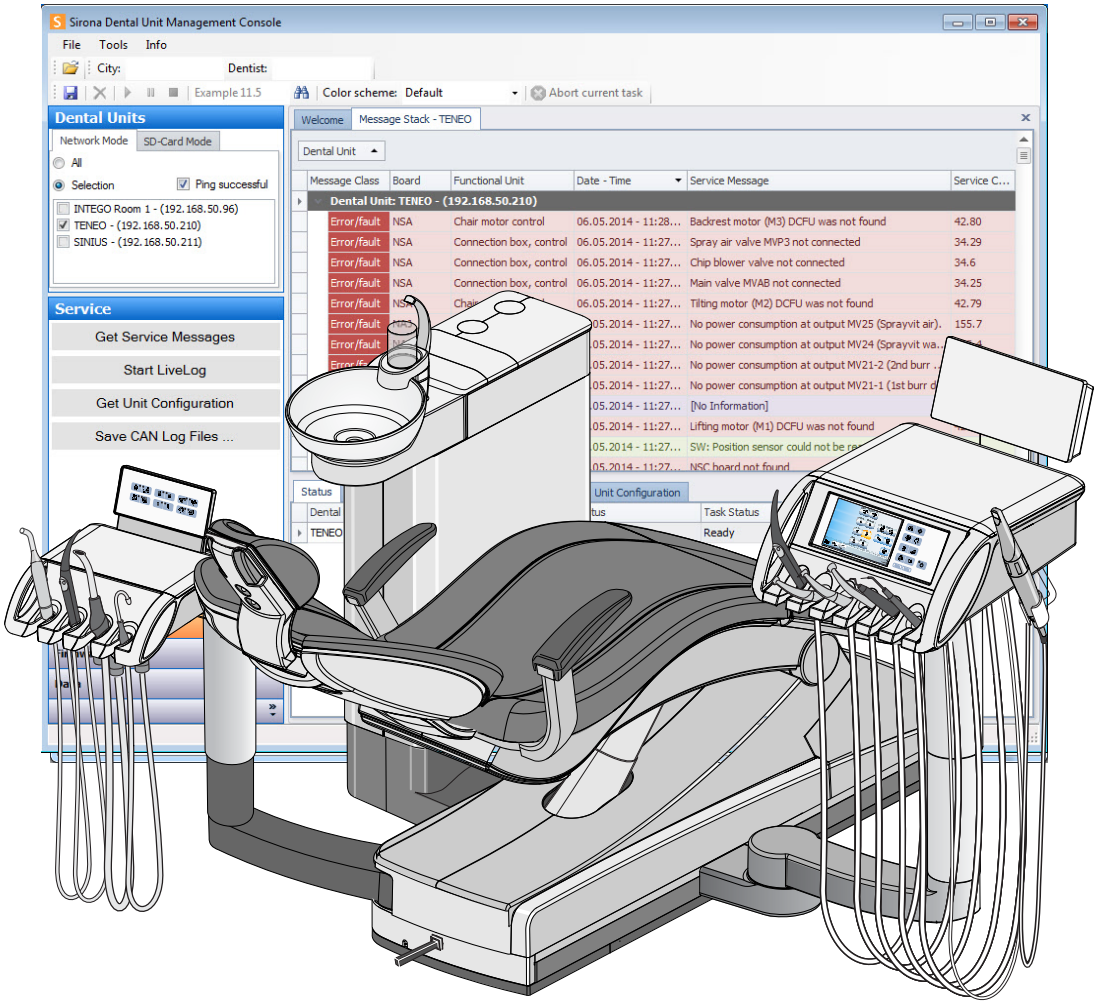

Sirona Dental Unit Management Console
File
Tools
Info
City:
Dentist:
Example 11.5
Color scheme: Default
Abort current task
Dental Units
Network Mode
SD-Card Mode
All
Selection
Ping successful
INTEGO Room 1 - (192.168.50.96)
TENEO - (192.168.50.210)
SINIUS - (192.168.50.211)
Service
Get Service Messages
Start LiveLog
Get Unit Configuration
Save CAN Log Files ...
Welcome
Message Stack - TENEO
Dental Unit
Message Class
Board
Functional Unit
Date - Time
Service Message
Dental Unit: TENEO - (192.168.50.210)
Error/fault NSA Chair motor control 06.05.2014 - 11:28... Backrest motor (M3) DCFU was not found 42.80
Error/fault NSA Connection box, control 06.05.2014 - 11:27... Spray air valve MVP3 not connected 34.29
Error/fault NSA Connection box, control 06.05.2014 - 11:27... Chip blower valve not connected 34.6
Error/fault NSA Connection box, control 06.05.2014 - 11:27... Main valve MVAB not connected 34.25
Error/fault NSA 06.05.2014 - 11:27... Tilting motor (M2) DCFU was not found 42.79
05.2014 - 11:27... No power consumption at output MV25 (Sprayvit air). 155.7
05.2014 - 11:27... No power consumption at output MV24 (Sprayvit wa...
05.2014 - 11:27... No power consumption at output MV21-2 (2nd burr ...
05.2014 - 11:27... No power consumption at output MV21-1 (1st burr ...
05.2014 - 11:27... [No Information]
05.2014 - 11:27... Lifting motor (M1) DCFU was not found
05.2014 - 11:27... SW: Position sensor could not be re...
05.2014 - 11:27... NSC board not found
Status
Dental
TENEO
Unit Configuration
tus
Task Status
Ready

Table of contents

1 Functional description 4
2 System requirements 5
3 Network connection 6
4 Installation/Update/Uninstallation 8
4.1 Installing the DUMC 8
4.2 Uninstalling the DUMC 10
5 User interface 11
6 Operation 13
6.1 Operation in network mode 13
6.1.1 Starting the DUMC 13
6.1.2 General operating concept of the DUMC 13
6.1.3 Network navigation area 15
6.1.3.1 Editing/removing a treatment center 16
6.1.3.2 Checking the accessibility of the treatment centers 17
6.1.3.3 Saving/reading the configuration of the office network 18
6.1.4 Service navigation area 21
6.1.4.1 Structure of service messages 21
6.1.4.2 Read out service memory 22
6.1.4.3 Displaying generated service messages simultaneously in DUMC (LiveLog) 22
6.1.4.4 Saving service messages 23
6.1.4.5 Opening service memory file 24
6.1.4.6 Get Unit Configuration 25
6.1.4.7 Save CAN log files 26
6.1.5 Firmware navigation area 28
6.1.5.1 Determining the current firmware version 28
6.1.5.2 Installing firmware 28
6.1.6 Data navigation area 31
6.1.6.1 Data backup 32
6.1.6.2 Restoring data 32
6.1.6.3 Transferring instrument system data 33
6.1.7 Updating the service database 33
6.2 Operation in SD card mode (only INTEGO) 34
6.2.1 Starting the DUMC 34
6.2.2 General operating concept of the DUMC 35
6.2.3 Network navigation area 37

6.2.3.1 Reading network configuration data 37
6.2.3.2 Changing/removing a treatment center 37
6.2.4 Service navigation area 39
6.2.4.1 Structure of service messages 39
6.2.4.2 Read out service memory 40
6.2.4.3 Saving service messages 40
6.2.4.4 Opening service memory file 41
6.2.4.5 Get Unit Configuration 42
6.2.4.6 Save CAN log files 43
6.2.5 Firmware navigation area 45
6.2.5.1 Adding/removing firmware 45
6.2.5.2 Installing firmware 46
6.2.6 Updating the service database 47
6.3 Find service code 47
6.4 Filtering, sorting, and grouping data records 51

1 Functional description

This service manual provides instructions and information on the use of the DUMC (Dental Unit Management Console) PC application by Sirona.

A graphical user interface is available for administrative activities associated with the use and maintenance of treatment centers of the TENEO, SINIUS and INTEGO product lines.

The DUMC is a collection of administrative tools for the following areas:

- *"Network"*
- *"Service"*
- *"Firmware"*
- *"Data"*

The DUMC allows for remote access to the service messages of the treatment center.

2 System requirements

Dental treatment center

The purpose of the DUMC is to administer TENEO, SINIUS and INTEGO treatment centers from Sirona.

DUMC PC

The DUMC can be installed on the external PC of the treatment center or on a service laptop.

The installation of the DUMC application requires one of the following operating systems:

- Windows 7 Service Pack 1
- Windows 8.1

Network connection

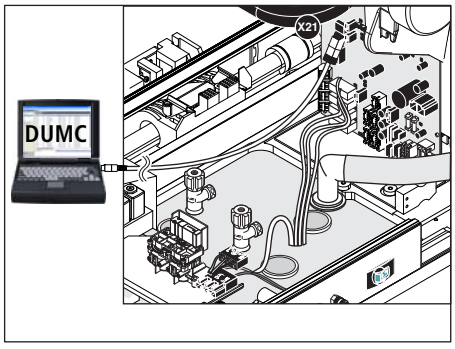
The DUMC PC communicates with the treatment center via the Ethernet interface, the office network, or with an SD card.

For remote access, the DUMC PC must have an ISDN or DSL Internet connection.

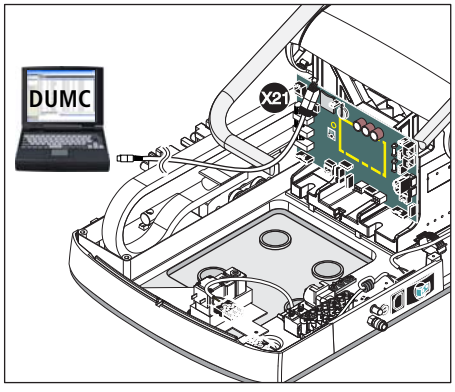
3 Network connection

If no office network is available, the DUMC OC can be connected with a treatment center via an Ethernet interface. Alternatively, an SD card can be used to transmit data between the treatment center and DUMC-PC.

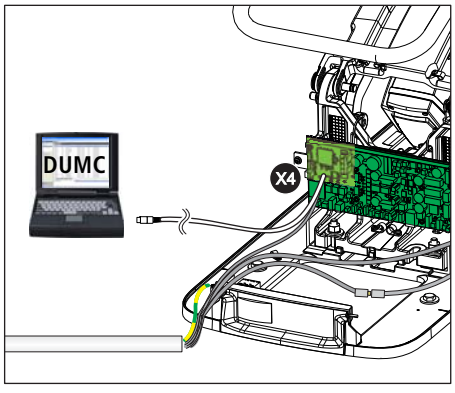
Connecting DUMC-PC to Ethernet interface



TENEO



SINIUS



INTEGO

⚠ CAUTION

Once the connection box has been opened, cables and electrical components are exposed.

Improper handling may endanger the product safety of the treatment center. This may invalidate warranty claims.

➢ The treatment center must only be opened by a SIRONA-authorized service engineer.

1. Unscrew the cover over the connection box.
2. Insert an RJ45 network cable into the Ethernet connection socket X21 for TENEO and SINIS and X4 for INTEGO.
3. Connect the RJ45 network cable to the DUMC-PC.

The service memory may also be viewed in the service area of the setup screen directly at the treatment center. To find the corresponding error descriptions and notes for troubleshooting, enter the service codes displayed on the touch screen into the DUMC database. See "Find service codes" [→ 47]. In this case, no network connection is required.

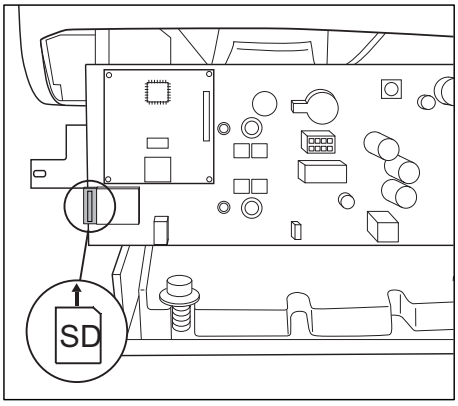
Inserting SD card

⚠ CAUTION

Once the connection box has been opened, cables and electrical components are exposed.

Improper handling may endanger the product safety of the treatment center. This may invalidate warranty claims.

➢ The treatment center must only be opened by a SIRONA-authorized service engineer.



INTEGO

IMPORTANT

The SD card can be inserted during operation and when switched off.

Hydrocolloid mode : The treatment transfers center network configurations and service data to a blank SD card.
If there are already center network configurations and service data on the SD card, these are transferred to the service memory of the treatment center.

Treatment center is switched off: On start up the treatment center checks whether software updates are available on the SD card. If none are available or selected, the treatment center takes no action. More information can be found under **network configurations** and **software update** as well as in the Firmware navigation area [→ 45]

1. Unscrew the cover over the connection box.
2. Insert the SD card into the slot in the connection box intended for this purpose.

↳ After inserting the SD card the service data of the current service memory is copied to the SD card.

Network configuration

If no network data is available on the SD card, the current network configuration on the SD card is saved.

If network data is available on the SD card, this data is copied to the treatment center and takes effect after the next restart.

Software update

The treatment center recognizes after switching on whether a software update is available on the SD card. If a software update is available on the SD card, it is automatically installed.

The service memory may also be viewed in the service area of the setup screen directly at the treatment center. To find the corresponding error descriptions and notes for troubleshooting, enter the service codes displayed on the touch screen into the DUMC database. See "Find service codes" [→ 47]. In this case, no SD card is required.

4 Installation/Update/Uninstallation

4.1 Installing the DUMC

Opening the installation file

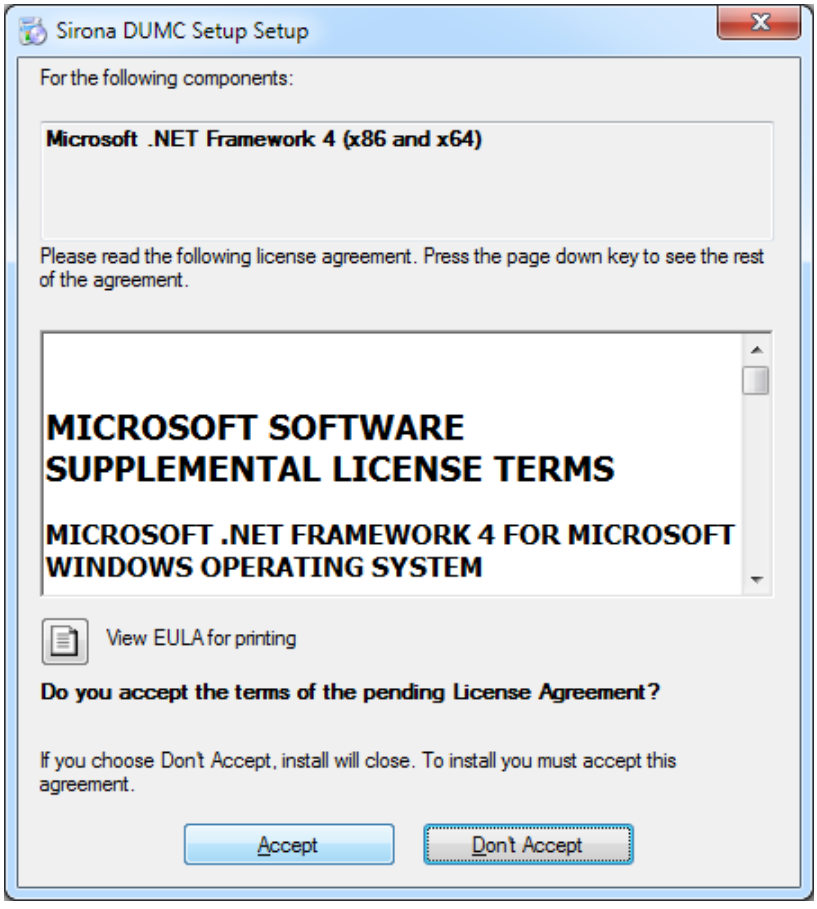
IMPORTANT
All installation phases must take place through the administrator login.

✓ All applications on the PC must be closed.

1. Place the CD *"PC Software TENEO/SINIUS/DARWIN"* in the CD drive.
2. Open the installation file:
   [CD drive letter]:\DUMC\Sirona DUMC Setup.exe
   ↳ The installation wizard opens.

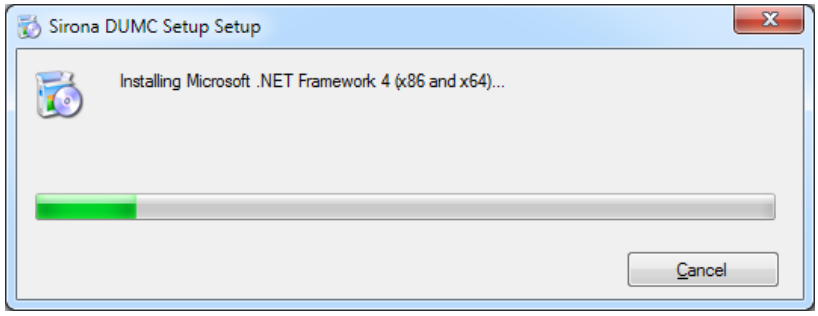
Installing Microsoft .NET Framework

.NET Framework technology is required to operate the DUMC. The installation routine checks whether this technology is installed on the PC. If this is not the case, .NET will automatically be installed as part of the installation routine.


Sirona DUMC Setup Setup
For the following components:
Microsoft .NET Framework 4 (x86 and x64)
Please read the following license agreement. Press the page down key to see the rest of the agreement.
MICROSOFT SOFTWARE SUPPLEMENTAL LICENSE TERMS
MICROSOFT .NET FRAMEWORK 4 FOR MICROSOFT WINDOWS OPERATING SYSTEM
View EULA for printing
Do you accept the terms of the pending License Agreement?
If you choose Don't Accept, install will close. To install you must accept this agreement.
Accept
Don't Accept

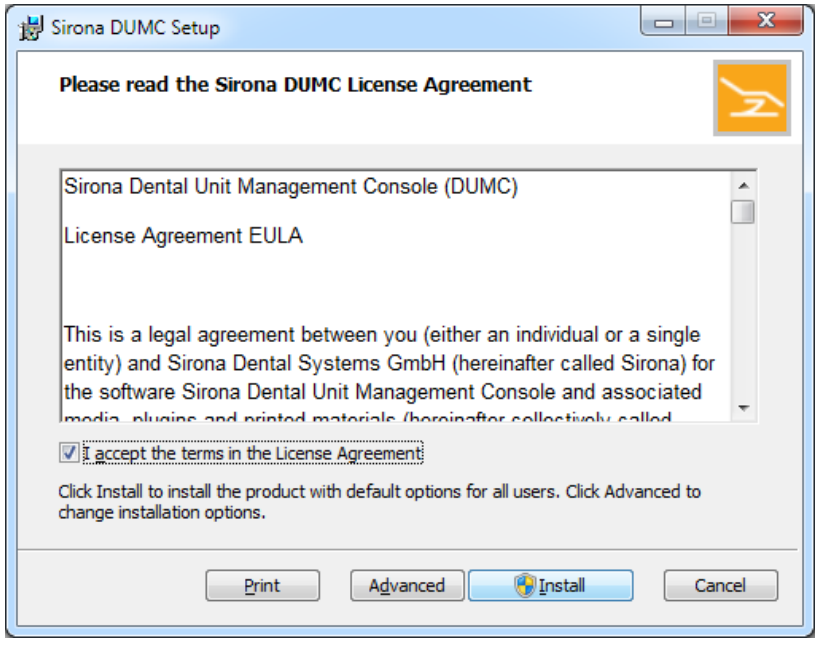
➢ Accept the .NET Framework license agreement. Click on the *"Accept"* button.

↳ The installation of .NET Framework is started. The installation may take several minutes.



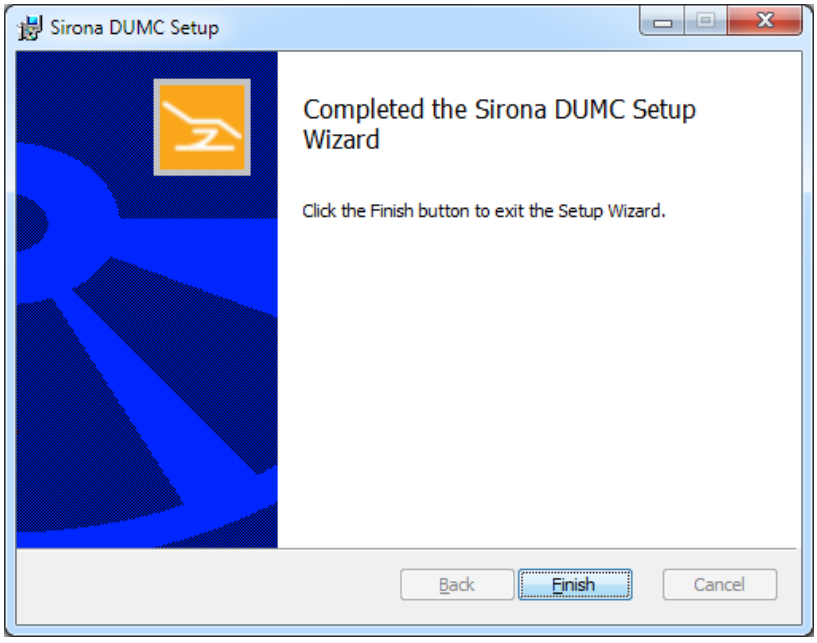
Installing the DUMC

Once .NET Framework has been installed, the installation of the DUMC is started.


Sirona DUMC Setup
Please read the Sirona DUMC License Agreement
Sirona Dental Unit Management Console (DUMC)
License Agreement EULA
This is a legal agreement between you (either an individual or a single entity) and Sirona Dental Systems GmbH (hereinafter called Sirona) for the software Sirona Dental Unit Management Console and associated
I accept the terms in the License Agreement
Click Install to install the product with default options for all users. Click Advanced to change installation options.
Print
Advanced
Install
Cancel

1. Accept the DUMC license agreement. Place a checkmark and then click the *"Install"* button. The installation options can be changed via the *"Advanced"* button (not recommended).

↳ The installation of the DUMC is started.



2. Click on the *"Finish"* button.
   ↳ The installation of the DUMC is complete.
3. Remove the CD *"PC Software TENEO/SINIUS/DARWIN"* from the CD drive.

4.2 Uninstalling the DUMC

The DUMC can be automatically removed from the PC.

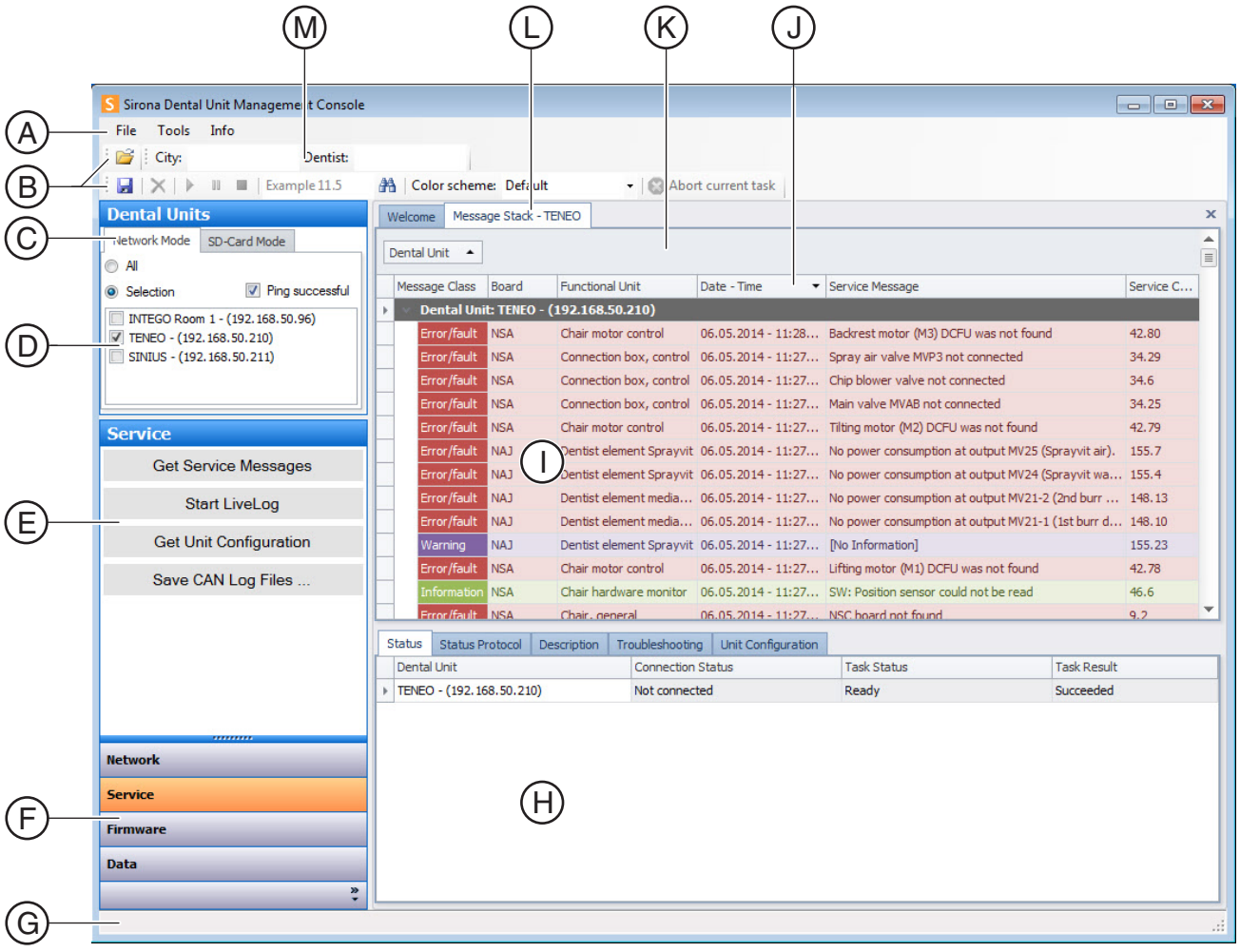
✓ The DUMC and all other PC applications must be closed.

1. Open your PC's Control Panel via "Start".
2. Open the program or software list.
3. Select "Sirona DUMC" in the list.
4. Click the button marked "Uninstall" or "Remove".
5. Confirm that the DUMC is to be removed from the PC.

.NET Framework is not removed when the DUMC is uninstalled. It can remain on the system (recommended) or be uninstalled in the same manner.

5 User interface

The user interface of the DUMC is structured as follows:



A	Menu bar	The menu bar consists of the menus *"File"*, *"Utilities"* and *"Info"*. These menus can be used to execute general functions such as opening files and updating the service database.
B	Toolbar	The toolbar includes icons for fast access to specific functions, depending on the selected navigation area. The containers can be positioned freely on the toolbar.
C	Mode selection	Mode selection allows you to choose the communication channel between the treatment center and the DUMC PC. You can select from "network mode" (Ethernet interface or office network) and SD card mode.
D	Device selection	The treatment centers that can be administered via the IP network are displayed here. The contents of the device list depend on the settings in the *"Network"* function area.
E	Function area	The functions of the selected navigation area are listed in the function area. Functions are used only for the treatment centers that are marked in the device selection located above them.
F	Navigation area	The function areas are selected in the navigation area. The user interface changes depending on the selected function. As part of product support services, Sirona is able to offer further DUMC functions.

G	Status bar	The status bar displays general action and status information.
H	Message box	The message box shows additional information about a data record selected in the dialog box in free text format.
I	Dialog box	The dialog box shows information, e.g., data records, for the selected navigation area in table format. If applicable, the information may be filtered, sorted and grouped.
J	Table header	You can use the table header to filter or sort data records in accordance with one or several criteria. The filter or sorting criteria match the table columns in the dialog box.
K	Grouping area	You can use the grouping function for nesting data records in accordance with one or several criteria. The groups can be expanded or collapsed in the dialog box.
L	Tabs	Depending on the selected function area, the dialog box (see below) may be divided into several tabs. Each tab refers to a specific function and may contain data records, buttons and additional commands.
M	Office toolbar	The office name entered here is used to save and manage all user-specific data.

6 Operation

6.1 Operation in network mode

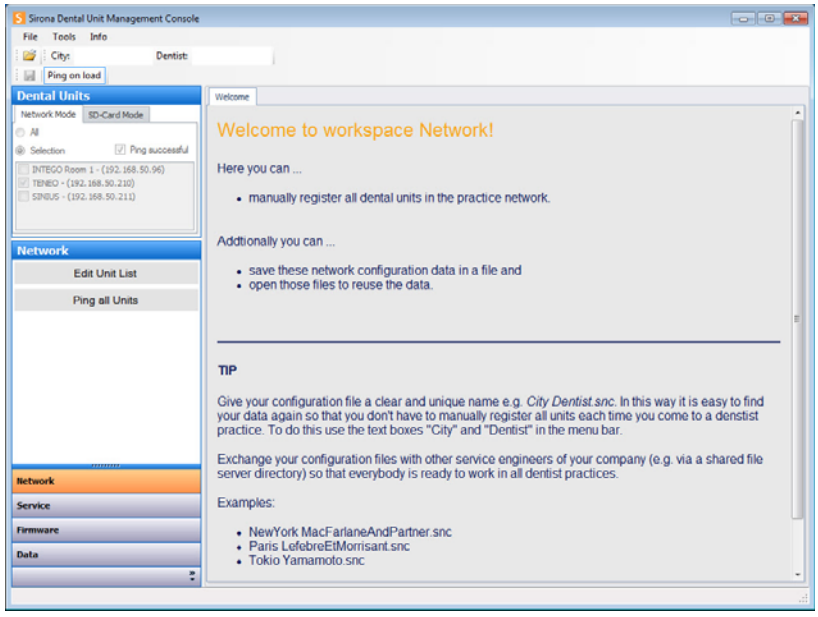
6.1.1 Starting the DUMC

➢ Start the DUMC by double-clicking on the application icon on the desktop.

or

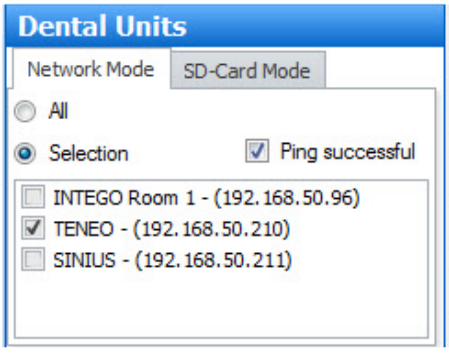
➢ Click: *"Start"* → *"Programs"* → *"Sirona DUMC"* → *"Sirona DUMC"*

↳ The DUMC starts.

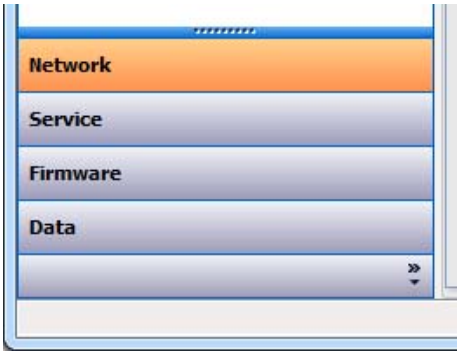

Sirona Dental Unit Management Console
File
Tools
Info
City:
Dentist:
Ping on load
Dental Units
Network Mode
SD-Card Mode
All
Selection
Ping successful
INTEGO Room 1 - (192.168.50.96)
TENEO - (192.168.50.210)
SINIUS - (192.168.50.211)
Network
Edit Unit List
Ping all Units
Network
Service
Firmware
Data
Welcome
Welcome to workspace Network!
Here you can ...
manually register all dental units in the practice network.
Addtionally you can ...
save these network configuration data in a file and
open those files to reuse the data.
TIP
Give your configuration file a clear and unique name e.g. City Dentist.snc. In this way it is easy to find your data again so that you don't have to manually register all units each time you come to a denstist practice. To do this use the text boxes "City" and "Dentist" in the menu bar.
Exchange your configuration files with other service engineers of your company (e.g. via a shared file server directory) so that everybody is ready to work in all dentist practices.
Examples:
NewYork MacFarlaneAndPartner.snc
Paris LefebreEtMorrisant.snc
Tokio Yamamoto.snc

6.1.2 General operating concept of the DUMC

1. Choose from network mode and SD card mode in mode selection.
2. First select the desired function area *"Network"*, *"Service"*, *"Firmware"* or *"Data"* in the navigation area.
3. Select the treatment center(s) to be administered in device selection.
4. Perform a function, e.g., *"Read Service Memory"*, for the selected treatment centers.

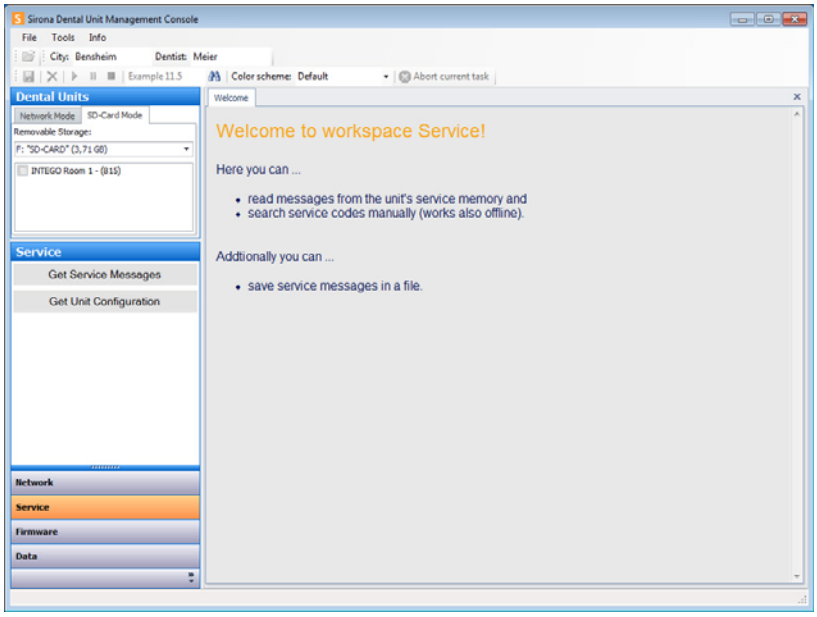


Selecting a function area

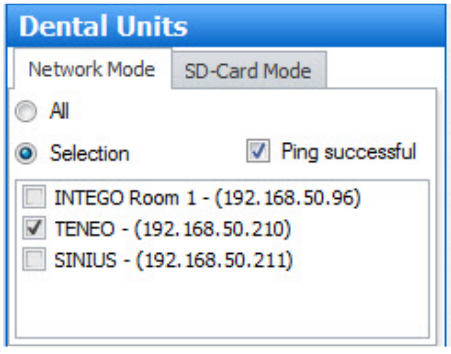


➢ Select the desired function area from the navigation area.

↳ The welcome screen for the selected function area appears in the dialog box with introductory information.



Selecting the mode

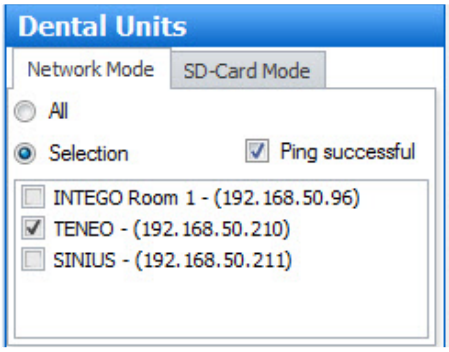


Click on the network mode tab in the mode selection window.

Selecting treatment center(s) and checking its/their network connection

The following instructions require the IP address(es) of the treatment centers to be administered to be made known to the DUMC and shown in device selection. If no IP address or standard IP address 192.168.50.50 is shown, an SNC file (Sirona Network Configuration) can be read in instead. For more information please refer to "Network function area" [→ 15].

In device selection, select the treatment center to be administered from the network. You can either select all treatment centers available in the network or select individual treatment centers. The functions will only be executed in the selected treatment centers.



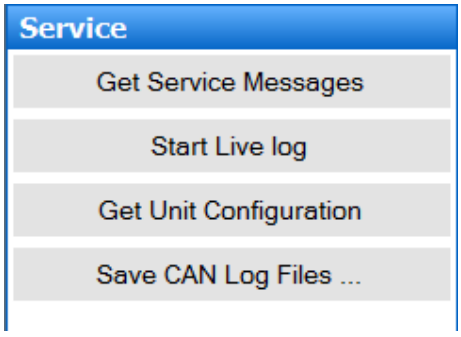
➢ Select the option *"All"* if the functions are to be executed simultaneously in all treatment centers available in the network.

or:

1. Select the option *"Selection"* if the functions are to be executed in one or a specific group of treatment centers only.
2. Place a checkmark in front of the desired treatment centers.

If a checkmark is set next to *"Ping successful"* (default setting), inaccessible treatment centers in device selection will be grayed out or filtered out. For more information please refer to "Check accessibility of treatment centers" [→ 17].

Selecting functions



Depending on the selected function area, you may have a choice of different functions. The figure on the left shows the functions of the *"Service"* function area as an example.

➢ Select a function of the selected area. If applicable, select a file or enter a value in the text box.

↳ The corresponding function will be executed.

For details on the functions, please refer to the following sections.

6.1.3 Network navigation area

The DUMC can simultaneously administer several treatment centers via the office network. The IP addresses of the treatment centers must be configured in the dialog box of the *"Network"* navigation area. This is a prerequisite for assigning functions.

The resulting list of the treatment centers to be administered can be saved as a file on a data medium for reading in at a later point. In this manner, the configuration of the office network only has to be recorded once in the DUMC.

IMPORTANT

Saving the configuration data

Save the configuration data with a descriptive file name in the form *Place name Office name.snc*. This allows for easy recognition of the data and saves the effort of recording it with every service visit to the dental practice. Use the *"City"* and *"Dentist"* text boxes in the Office toolbar for this purpose.

Exchange your files with those of other service engineers in your company (e.g., in a central directory) to ensure that all employees can start work immediately when making a service call to a "new" dental practice.

IMPORTANT

Saving changes

To ensure the changed settings are copied to the SNC file, the changes to the network configurations must be confirmed again by pressing the *"Save"* button. Pressing *"Accept"* only saves the settings in the current DUMC session.

6.1.3.1 Editing/removing a treatment center

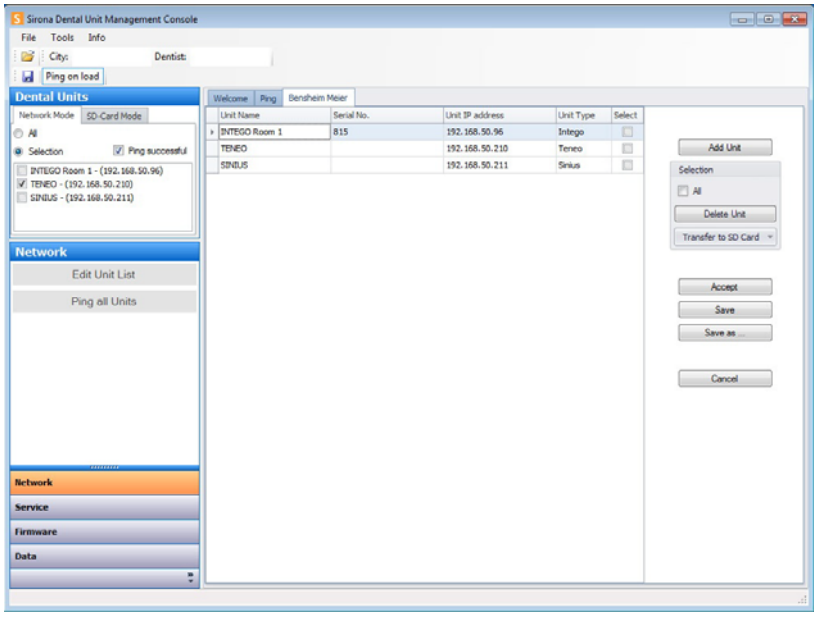
Adding a treatment center

The designation and the IP address of the treatment center to be administered is recorded in a table.

✓ "Network mode" is selected.

✓ The *"Network"* navigation area is selected.

1. Click on the *"Edit Unit List"* button in the function area.
   ↳ A new tab opens in the dialog box.



2. Click on the *"Add Unit"* button.

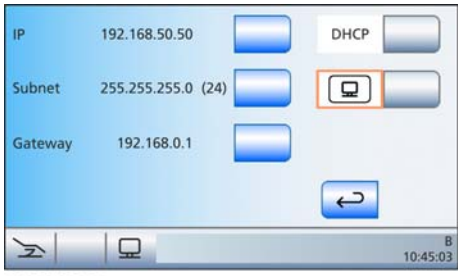
↳ A new line will be added to the list.

3. Enter the name of the treatment center.
4. Enter the IP address of the treatment center to be administered with the DUMC. For the assigned IP address, refer to the *"Network Connection"* setup program in the treatment center. More details can be found in the operating instructions for TENEO and SINIUS under "Configuring the network connection".
5. Click the *"Apply"* button to confirm the entry in the DUMC in the current session.

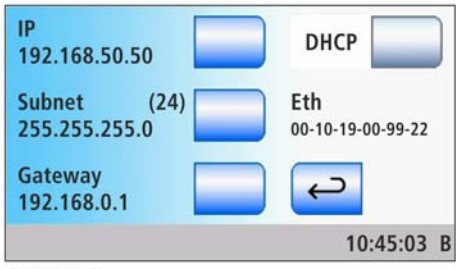
or

➢ Click on Save to save the entry permanently in the file system.

↳ The indicated treatment center is shown in the list of treatment centers in the DUMC's device selection.



TENEO



SINIUS

Removing a treatment center

You cannot undo the removal of treatment centers from the table. In this case, you would have to add the treatment center as a new entry.

1. Select the Edit Unit List function.
2. Select one or more treatment centers in the table in the dialog box and click *"Delete Unit"*.
3. Click Save to permanently copy the changes to the DUMC.

↳ The selected treatment centers are removed from the table.

Saving treatment center(s) to the SD card

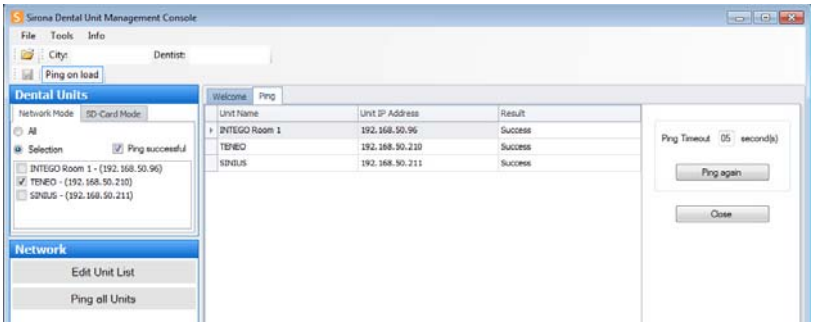
If an SD card is inserted, the selected treatment centers can be saved to the SD card.

1. Select the Edit Unit List function.
2. Select one or more treatment centers in the table in the dialog box or place a checkmark in the selection box "All".
3. Click the Transfer to SD card button.

↳ The selected treatment centers are copied to the list in the dialog box in SD card mode.

6.1.3.2 Checking the accessibility of the treatment centers

A ping command can be sent to the IP addresses of the specified treatment centers via the DUMC. If a treatment center does not respond to the ping, the network connection is interrupted or some other fault has occurred.

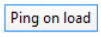


Starting a ping manually

The ping command can be started manually via the *"Ping all Units"* button in the function area and via the *"Ping again"* button in the dialog box. The accessibility of treatment centers can be checked in this way.

In the Timeout field in the dialog box, you can specify how long the command is to be executed. If the DUMC does not receive an answer within the indicated time, the treatment center is considered to be inaccessible. The default value is 5 seconds.

Automatic ping when the DUMC is started



When the DUMC is started, accessibility is automatically tested via the ping command. This function is activated by default. It can be switched off by clicking on the *"Ping on load"* button.

Filtering inaccessible treatment centers out of the picklist

If a checkmark is set next to *"Ping successful"* (default setting), inaccessible treatment centers in the DUMC's device selection will be grayed out or filtered out.

This function is available in the *"Service"*, *"Firmware"* and *"Data"* function areas.

6.1.3.3 Saving/reading the configuration of the office network

The configuration of the office network can be saved on any data medium as an SNC file (Sirona Network Configuration). The file name and storage location can be freely chosen. The file can, for instance, be imported into the DUMC PC of the service technician. This saves the effort of entering the network configuration for every service visit.

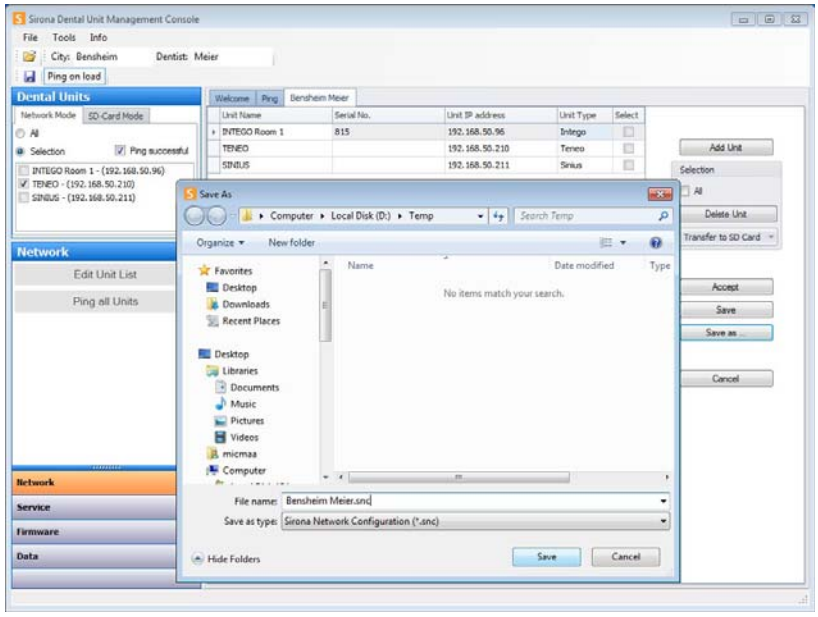
IMPORTANT
Saving changes to an SNC file To ensure the changed settings are copied to the SNC file, the changes to the network configurations must be confirmed again by pressing the *"Save"* button. Pressing *"Accept"* only saves the settings in the current DUMC session.

Saving in SNC file/Creating an SNC file

✓ The *"Edit DTC list"* function is selected.

✓ All treatment centers to be administered are entered into the table in the dialog box.

1. Click on the button *"Save"* or on the *Save* icon in the toolbar.
   ↳ The first time you save the data, the *"Save as"* window is opened.

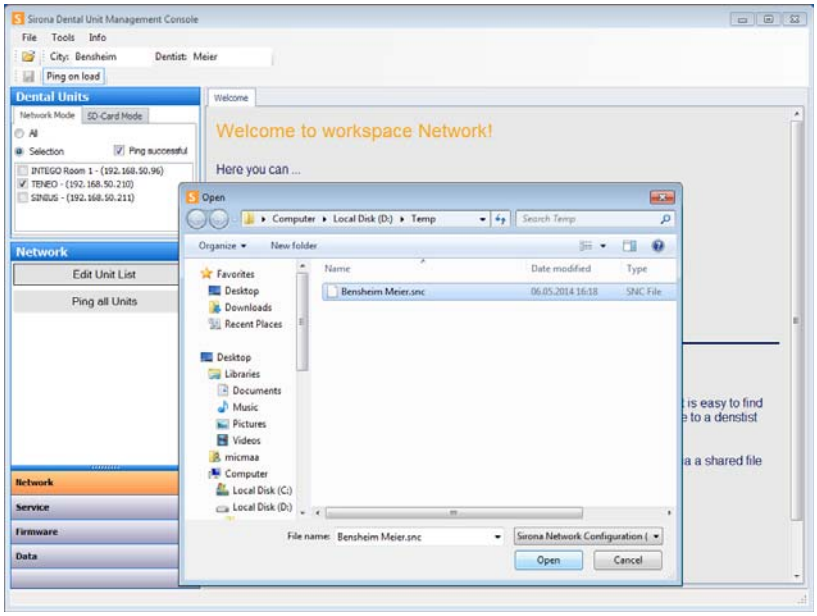


2. Enter the storage location and the file name under which the network configuration is to be saved. Use the file extension SNC. Confirm your entry with the *"Save"* button.
   ↳ The SNC file has been created.

You can use the *"Save as..."* button to create an additional SNC file under a different storage location and file name.

Loading an SNC file

1. Choose *"Open"* in the *"File"* menu bar or click on the *Open* icon in the toolbar.
   ↳ The *"Open"* window is displayed.



2. Select the SNC file and confirm it by clicking on *"Open"*.
   ↳ The dialog box of the *"Network"* navigation area lists the treatment centers with their IP addresses, you can change them as necessary. Refer to Editing/removing a treatment center [→ 16].

6.1.4 Service navigation area

The area marked *"Service"* offers error diagnostics functions.

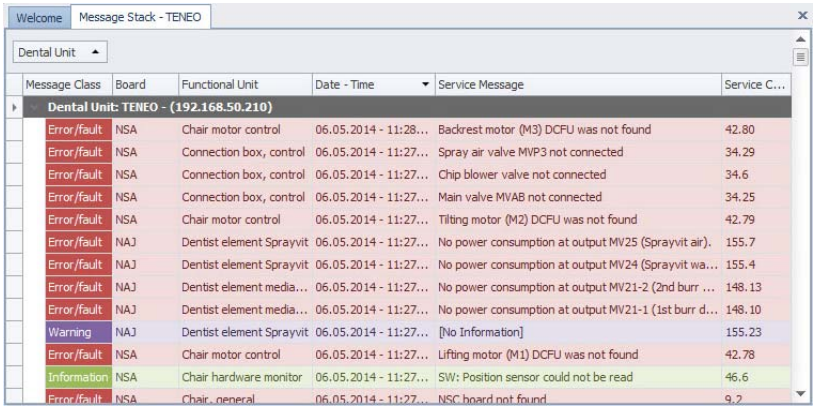
Every executed function generates another tab above the dialog box. This allows for executing several functions without losing the results.

IMPORTANT

Updating service messages

As part of its product maintenance efforts, Sirona continuously updates its service messages. It is important to regularly update the DUMC database to have access to the most current data when analyzing an error. See "Updating the service database" [→ 33].

6.1.4.1 Structure of service messages


Welcome
Message Stack - TENEO
Dental Unit
Message Class
Board
Functional Unit
Date - Time
Service Message
Service C...
Dental Unit: TENEO - (192.168.50.210)
Error/fault NSA Chair motor control 06.05.2014 - 11:28... Backrest motor (M3) DCFU was not found 42.80
Error/fault NSA Connection box, control 06.05.2014 - 11:27... Spray air valve MVP3 not connected 34.29
Error/fault NSA Connection box, control 06.05.2014 - 11:27... Chip blower valve not connected 34.6
Error/fault NSA Connection box, control 06.05.2014 - 11:27... Main valve MVAB not connected 34.25
Error/fault NSA Chair motor control 06.05.2014 - 11:27... Tilting motor (M2) DCFU was not found 42.79
Error/fault NAJ Dentist element Sprayvit 06.05.2014 - 11:27... No power consumption at output MV25 (Sprayvit air). 155.7
Error/fault NAJ Dentist element Sprayvit 06.05.2014 - 11:27... No power consumption at output MV24 (Sprayvit wa... 155.4
Error/fault NAJ Dentist element media... 06.05.2014 - 11:27... No power consumption at output MV21-2 (2nd burr ... 148.13
Error/fault NAJ Dentist element media... 06.05.2014 - 11:27... No power consumption at output MV21-1 (1st burr d... 148.10
Warning NAJ Dentist element Sprayvit 06.05.2014 - 11:27... [No Information] 155.23
Error/fault NSA Chair motor control 06.05.2014 - 11:27... Lifting motor (M1) DCFU was not found 42.78
Information NSA Chair hardware monitor 06.05.2014 - 11:27... SW: Position sensor could not be read 46.6
Error/fault NSA Chair, general 06.05.2014 - 11:27... NSC board not found 9.2

Service messages contain the following information:

"Message Class"
Classification of the service message by:

- *"Error"*
  An error has occurred
- *"Warning"*
  An error may have occurred
- *"Information"*
  Service information (no error)
- *"User Information"*
  Service messages displayed on the touchscreen.

Service messages are color coded according to their classification. The color scheme can be set via the *"Color scheme"* selection box in the toolbar.

"Board"
Acronym of the component that generated the service message

"Functional Unit"
Acronym of the functional unit that generated the service message

"Date - Time"
Time at which the service code was generated

"Service Massage"
Brief text for the corresponding service code

"Service Code"
Unique designation of the service code

6.1.4.2 Read out service memory

The *"Read Service Memory"* function reads out the service memory of the treatment center and shows it on the DUMC in the form of data records arranged in a table in the dialog box. The service memory records service codes that occurred during operation.

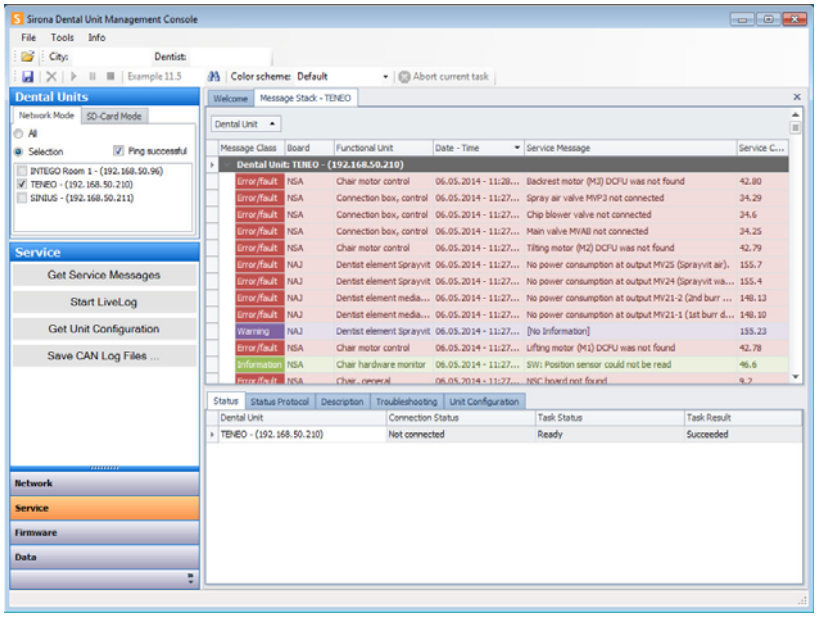
✓ "Network mode" is selected.

✓ The *"Service"* navigation area is selected.

✓ The required treatment centers are selected.

➢ Execute the *"Read Service Memory"* function.

↳ The service memory is read out and shown in the dialog box.



6.1.4.3 Displaying generated service messages simultaneously in DUMC (LiveLog)

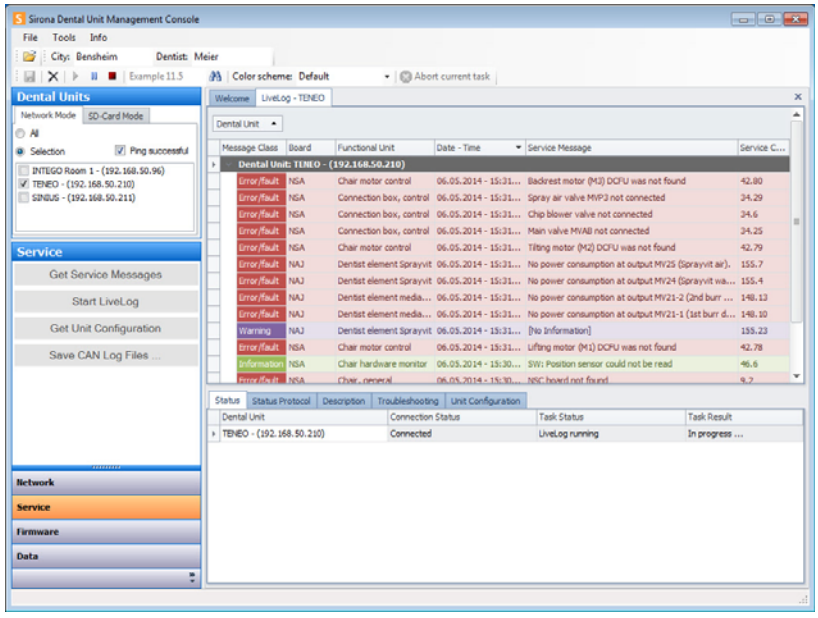
If you choose the *"Start LiveLog"* function, the generated service messages are transferred to the DUMC immediately and listed there. This function is especially useful for diagnostic and control purposes.

✓ "Network mode" is selected.

✓ The *"Service"* navigation area is selected.

➢ Execute the *"Start LiveLog"* function.

↳ LiveLog starts running. Generated service messages are immediately displayed in the dialog box as soon as they appear.



Starting/pausing/stopping LiveLog

The LiveLog function can be started, paused and stopped in the toolbar. This allows for temporarily interrupting or emptying the display of generated service messages.

✓ "Network mode" is selected.

✓ The *"Service"* navigation area is selected.

✓ The treatment centers are selected.

1. Click the desired icon in the toolbar.
   ↳ The display of service messages is paused, stopped or restarted. When stopping and re-starting the LiveLog function, the table of service messages is emptied.
2. Click on the *"Stop"* symbol to perform other functions.

Deleting data records

Generated service messages can be deleted from the table in the dialog box.

✓ The dialog box displays the generated service messages.

➢ Click the *Delete* button on the toolbar.

6.1.4.4 Saving service messages

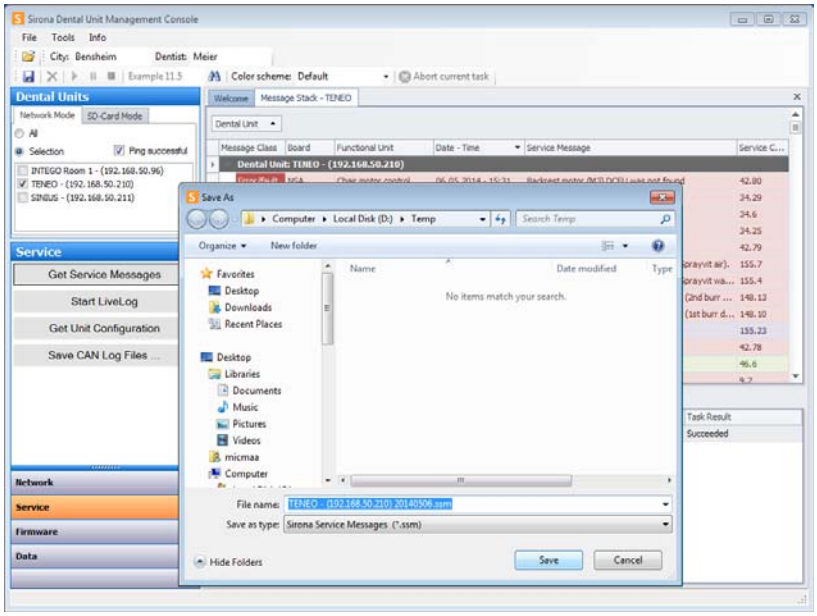
The service messages displayed in the dialog box can be saved as an SSM (Sirona Service Messages) file on any data medium. The file name and storage location are automatically created. This file can for example be forwarded to the technical department of the dental depot or to the Customer Service Center at Sirona by e-mail as an attachment.

Save in SSM file/Create SSM file

IMPORTANT
INTEGO: Do not change the name created for the SSM file! In the case of INTEGO the file name is created by the system and must not be changed. The file name contains the serial number of the center and helps the Customer Service Center at Sirona to quickly identify and repair defective functions.

✓ The dialog box shows service messages, e.g. from reading the service memory or LiveLog.

1. Click the *Save* icon on the toolbar.
   ↳ The *"Save as"* window opens.



2. Select a storage location and accept the created file name. Confirm your entry with *"Save"*.
   ↳ The SSM file has been created and saved.

6.1.4.5 Opening service memory file

Service messages can be inputted from the following file types:

- **SSM** / Sirona Service Messages file („*.ssm“)
- **SSC** / Sirona Service Card file („*.ssc“)
  (SD card internal service memory file)

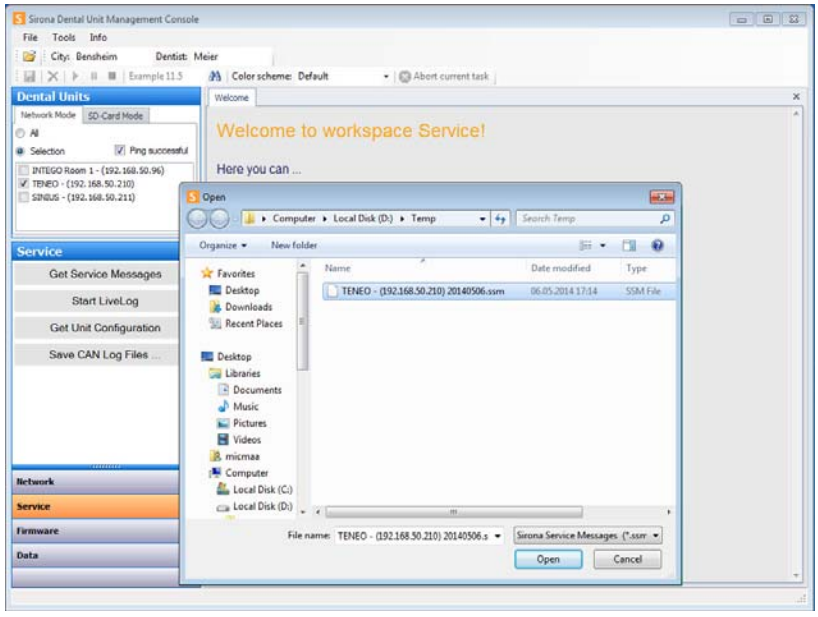
Presetting

The **SSM** (Sirona Service Memory file) file type is preset in "network mode".

If the **SSC** (Sirona Service Card file) file type is inputted, the "Sirona Service Card (*.ssc)" type must be selected in the file type selection field.

Opening *"Open"* window

1. In the *"File"* menu bar, choose the entry *"Open"*
   or
2. Click the *Open* icon on the toolbar.
   ↳ The *"Open"* window is displayed.
   ↳ In the *"Service"* area, the service messages saved in the file in the dialog box are displayed.



Selecting the file

➢ Select the desired file and confirm it by choosing *"Open"*.
↳ In the *"Service"* area, the service messages saved in the file in the dialog box are displayed.

6.1.4.6 Get Unit Configuration

The function *"Get Unit Configuration"* returns the following information:

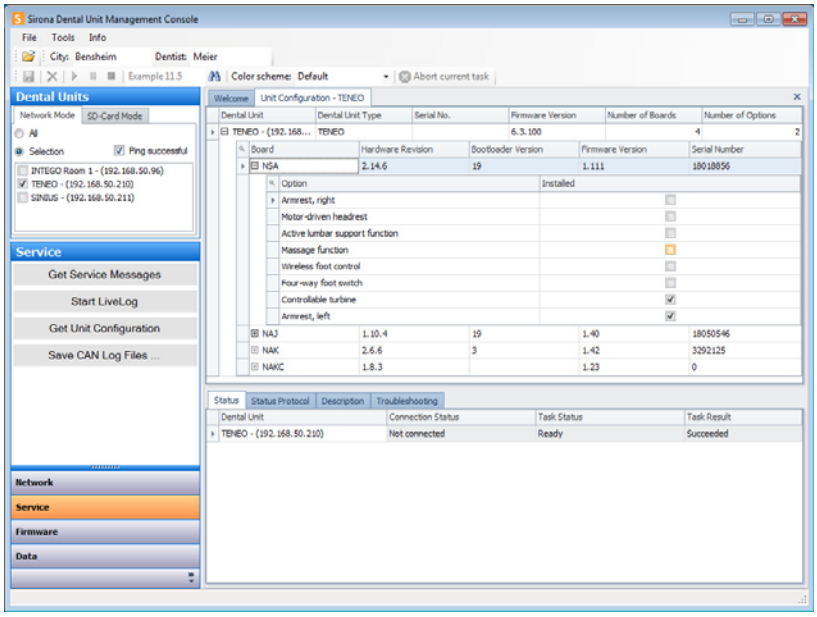
- Firmware version of the treatment center
- Treatment center identifier, type, serial number, hardware version
- Installed equipment options, for example, a third burr drive, X-ray film viewer, etc.
- Number of installed assemblies, for example, NSA, NAJ, etc., and number of equipment options

IMPORTANT
In the case of TENEO, the configuration can only be queried from firmware version 4.0.xx and higher. With earlier firmware versions, the "get unit configuration" query does not return any results.

✓ The "network mode" mode is selected.
✓ The *"Service"* function area is selected.

➢ Execute the function *"Get Unit Configuration"*.

↳ The configuration query is started. The configuration of the treatment center is displayed in the dialog box.



- With the functions "Read out service memory" [→ 22] and "Displaying generated service messages (LiveLog)" [→ 22], the configuration of the treatment center is queried automatically and displayed on a separate tab in the dialog box.
- In the case of function Saving service messages [→ 40] the configuration of the treatment center is also saved in the SSM file.

6.1.4.7 Save CAN log files

IMPORTANT
Scope The CAN logfiles can **only** be queried in the case of **TENEO** with **Firmware Version 6.3.100**. In the case of **SINIUS**, **INTEGO**, and other models, no CAN logfile (*.SSM) is created.

The function *"Save CAN Log Files"* should only be executed at the request of Sirona.

For diagnostic purposes the following information is saved as a SSM file on any data medium.

- Service memory
- Configuration
- CAN logfiles of the bus system

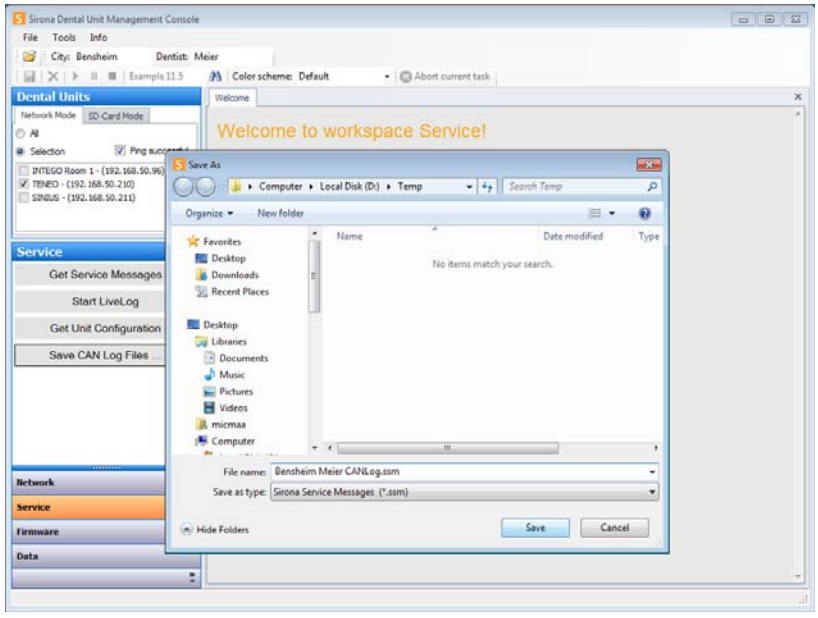
Depending on the amount of data this process can take 15 minutes or more. The amount of data can be reduced by regularly isolating the errors that occur.

✓ The "network mode" mode is selected.

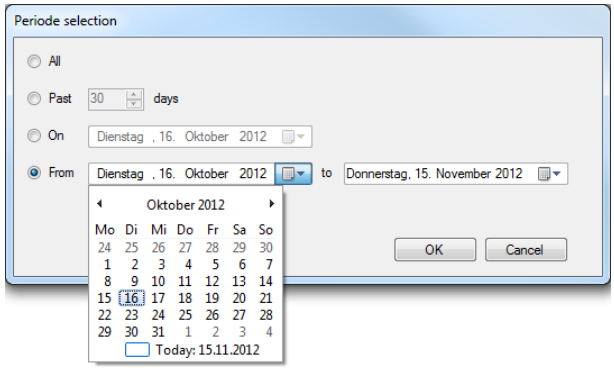
✓ The *"Service"* function area is selected.

✓ The required treatment centers are selected.

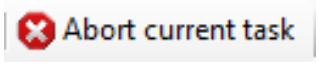
1. Execute the function *"Save CAN Log Files"*.
   ↳ The *"Save as"* window opens.



2. Select a storage location and accept the created file name. Confirm with the *"Save"* button.
   ↳ The *"Periode selection"* window is displayed.


Periode selection
All
Past 30 days
On Dienstag , 16. Oktober 2012
From Dienstag , 16. Oktober 2012
to Donnerstag, 15. November 2012
Oktober 2012
Mo Di Mi Do Fr Sa So
24 25 26 27 28 29 30
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31 1 2 3 4
Today: 15.11.2012
OK
Cancel

3. Isolate the time period in which the error has occurred. Confirm your selection by pressing *"OK"*.
   ↳ The SSM file is created. Wait until the process has been completed.



Saving of the data can be interrupted by clicking the *"Abort current task"* button in the toolbar.

IMPORTANT
Transfers that have been started are finished. Start the process again if necessary.

6.1.5 Firmware navigation area

Sirona continuously advances and improves the software of the treatment center (firmware). This utility determines and updates the current software version.

6.1.5.1 Determining the current firmware version

Software-related problems can often be solved by updating the firmware. As a first step, check whether the software is current before taking other actions.

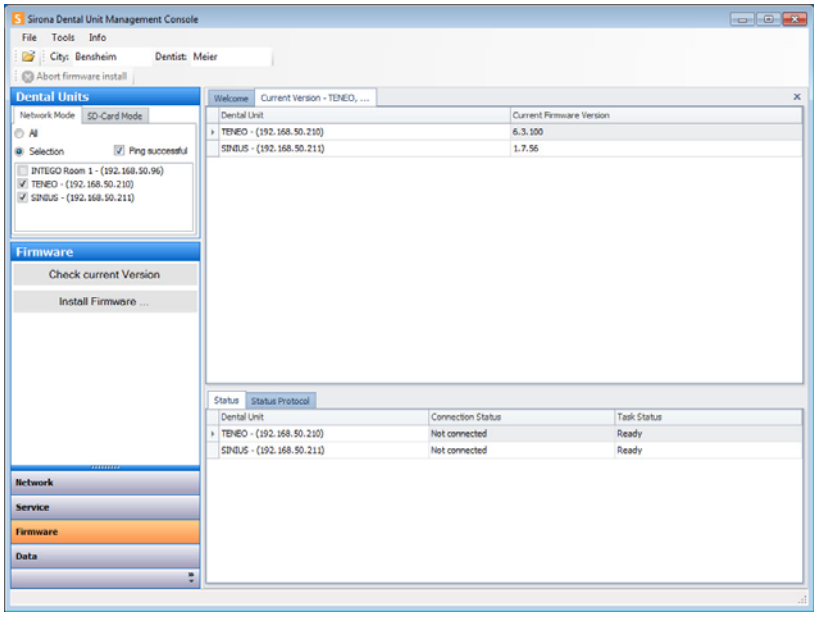
✓ "Network mode" is selected.

✓ The treatment center(s) to be checked are selected.

✓ The *"Firmware"* area is selected.

➢ Click on the *"Check current Version"* function.

↳ The current firmware version is shown in the dialog box.



Version number in round brackets ( ): At least one component has a different firmware version

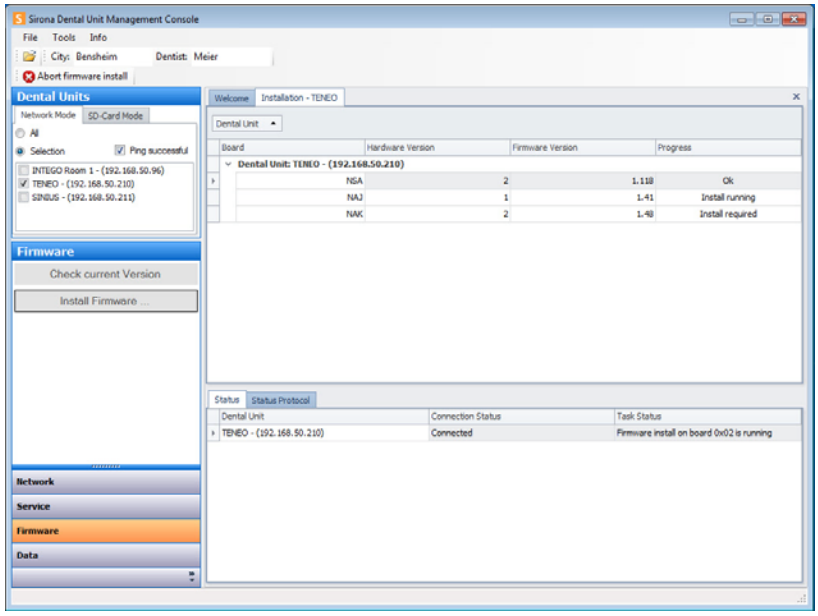
Version number with asterisk *: Information not available, for example, for older firmware versions

6.1.5.2 Installing firmware

✓ "Network mode" is selected.

✓ The "Firmware" area is selected.

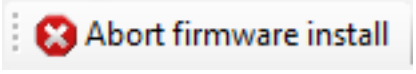
✓ The current firmware supplied by Sirona is available on a data medium.



1. Select the treatment center in which the firmware is to be updated or reinstalled.
2. Click on the button of the *"Install Firmware"* function.
3. Select the file that contains the version of the application firmware that is to be transferred to the treatment center. Click on the *"Open"* button.
4. Start the download request.
   - The DUMC sends the request to the selected treatment center. If the treatment center contains no application firmware or if the version of the application firmware is equal to or less than the version of the selected file, the installation will proceed without any further user interaction.
   - If the treatment center contains application firmware that is more recent than the version of the selected file, the installation ("downgrade") will only proceed after a confirmation prompt and the approval of the user.
5. The treatment center sends a list of the software components to be transferred. The DUMC displays these in the dialog box and calculates the status or progress.
   - The DUMC transfers the requested firmware components. The DUMC displays the result in the dialog box.

During the download, the user will see the following information on the user interface:

- Name of the component currently being transferred
- Download progress, shown as the number of components per treatment center



The firmware installation can be canceled by clicking the *"Abort firmware install"* button in the toolbar.

IMPORTANT

Any component installations that have been started will be finished before the firmware installation stops. Installations that already have been completed will not be undone. Start the firmware installation again.

6.1.6 Data navigation area

IMPORTANT

The Data function area can only be used for TENEO and SINIUS treatment centers.

Tip: There is no data transfer for INTEGO because the data is stored in the central data storage. The central data storage is connected to the treatment center. Intermediate storage is therefore not required. User data is read out in INTEGO together with the service memory.

The data the treatment center can save includes:

- Device data: Software of the individual components
- User data: Individual settings for the six users

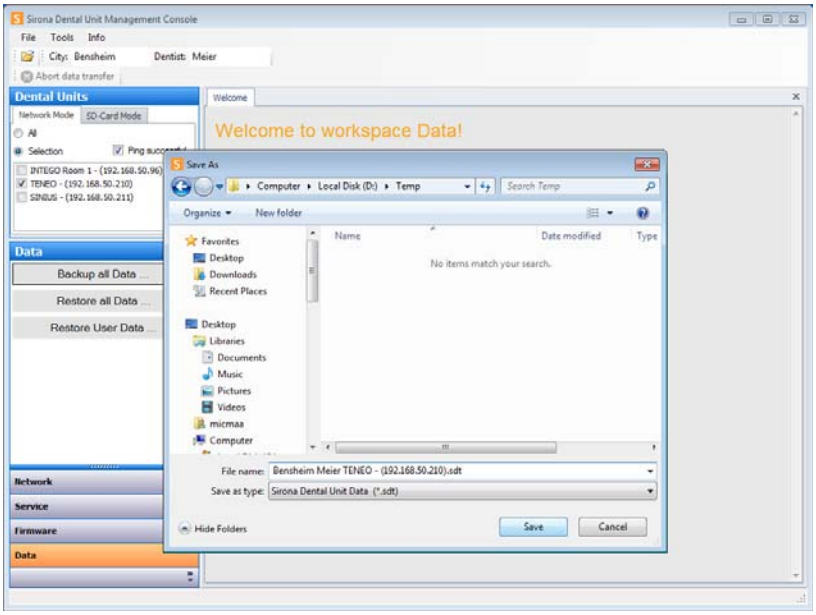
User and device data can be transferred to the DUMC PC and saved in a file. It can be re-loaded back into the same treatment center at a later time, or copied to one or more treatment centers.

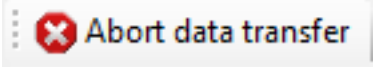
IMPORTANT

It is **not** possible to exchange data between TENEO and SINIUS treatment centers.

The data transfer function can be used, for example, to buffer the data from a component prior to it being replaced or to transfer a user's specific settings to other treatment centers.

When importing user data, you can select which of the user profiles A to F you want to restore.



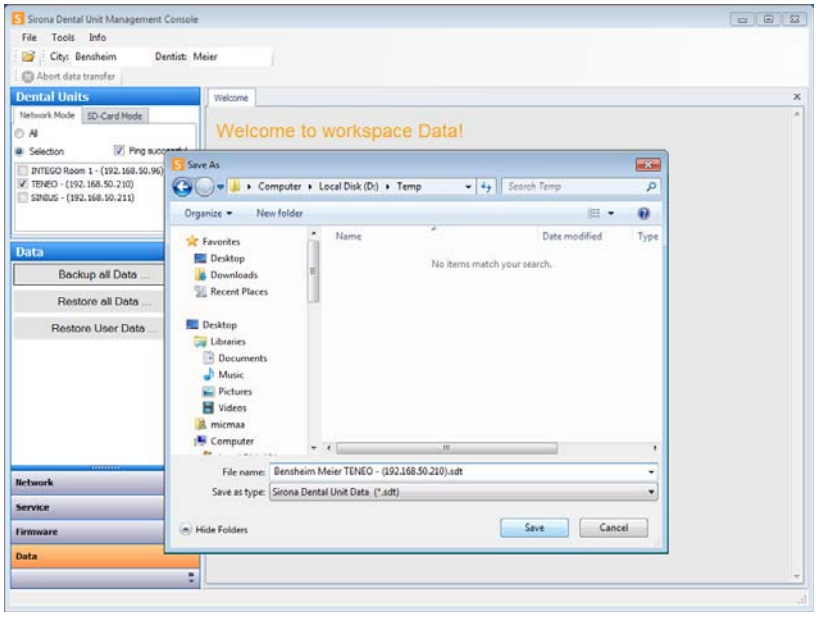


Data backup and restoration can be canceled by clicking on the *"Abort data transfer"* button in the toolbar.

IMPORTANT
Transfers that have been started are finished. Installations that already have been completed will not be undone. Start the data transfer again.

6.1.6.1 Data backup

1. Select the treatment center from which data is to be saved.
2. Click on the *"Data"* function in the *"Backup all data"* function area.



3. Select a storage location and specify a file name.
   ↳ The user and device data of the selected treatment center are saved to the specified file.

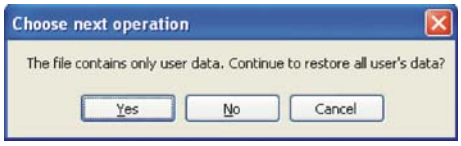
6.1.6.2 Restoring data

1. Select the treatment center(s) to which data is to be transferred.
2. Click on the *"Restore all Data"* or *"Restore User Data"* function in the *"Data"* function area.

IMPORTANT
In the case of the *"Restore all Data"* function, the device and user data of the file to be read are transferred to the treatment center. In the case of the *"Restore User Data"* function, only the user data and no device data are transferred, even if the latter are present in the file.

   ↳ The *"Open"* window is displayed.

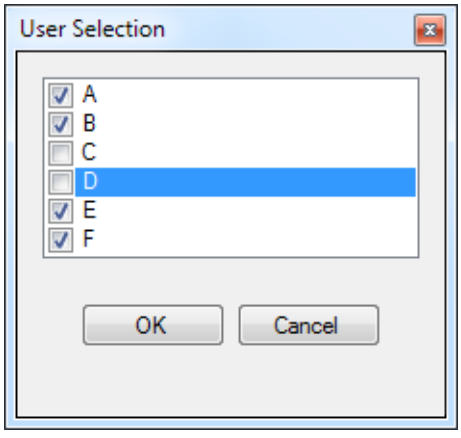
3. Select the file containing the data to be transferred.



IMPORTANT

Importing data from previous DUMC versions

If you selected the function *"Restore all Data"* but the specified file does not contain any device data, the message *"Choose next operation"* is displayed. Click on the *"Yes"* button to transfer all available user data (without selecting the user profiles), click on *"No"* to select the user profiles in advance in the window *"User Selection"*, or click on *"Cancel"* to transfer another file.



4. Select the user profile whose setup settings you wish to transfer. Confirm your selection by pressing *"OK"*.
   ↳ The process starts. Wait until transmission is complete.

6.1.6.3 Transferring instrument system data

The service memory of the TENEO and SINIUS treatment centers saves user data and data on instrument settings. If the service memory of these treatment centers is read out, user-specific instrument data of the centers can also be copied. This instrument data can be transferred to other treatment centers of the same type. In this way, all instruments can be set once to a treatment center and the data can be transferred to others of the same type.

6.1.7 Updating the service database

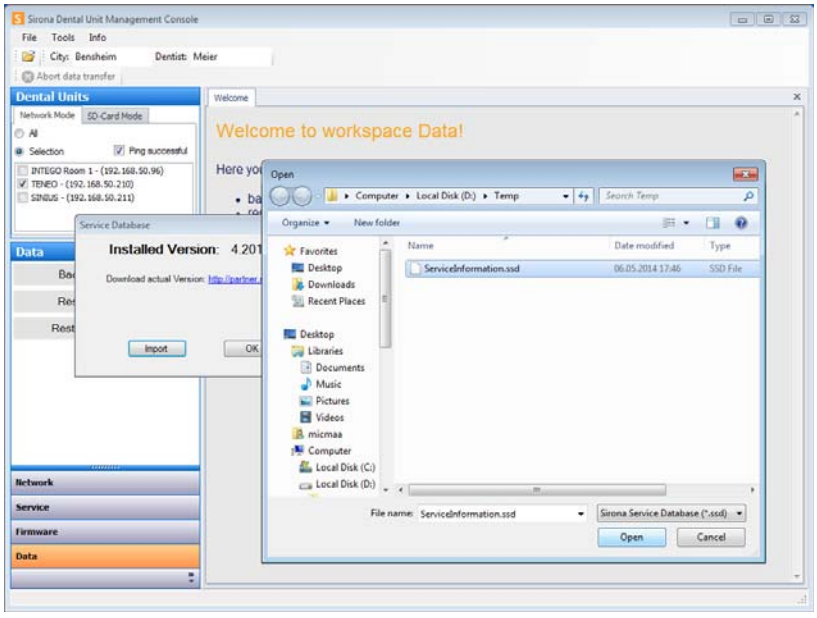
Together with the installation of the software, the system creates a database in which service codes, error descriptions and notes for troubleshooting are stored. As part of its product maintenance efforts, Sirona continuously updates this database. It is important to regularly update the DUMC database to have access to the most current data when analyzing an error.

You can download a current version of this database from Sirona by clicking on the link in the *Service database* window. This requires login data for the Sirona dealer area.

✓ The current copy of the service database is installed on the PC.

1. In the *"Utilities"* menu bar, choose the *"Service Database"* entry.
   ↳ The *"Service Database"* window appears.

IMPORTANT
Version of the service database In the *"Service Database"* window, the current version of the service database is displayed in the following format: Month.Year:Version



2. Click on the *"Import"* button.
   ↳ The *"Open"* window appears.
3. Select the (downloaded) SSD file (Sirona Service Database) and confirm it by clicking on *"Open"*.
   ↳ The service database is updated. The new version is displayed in the *"Service Database"* window.

6.2 Operation in SD card mode (only INTEGO)

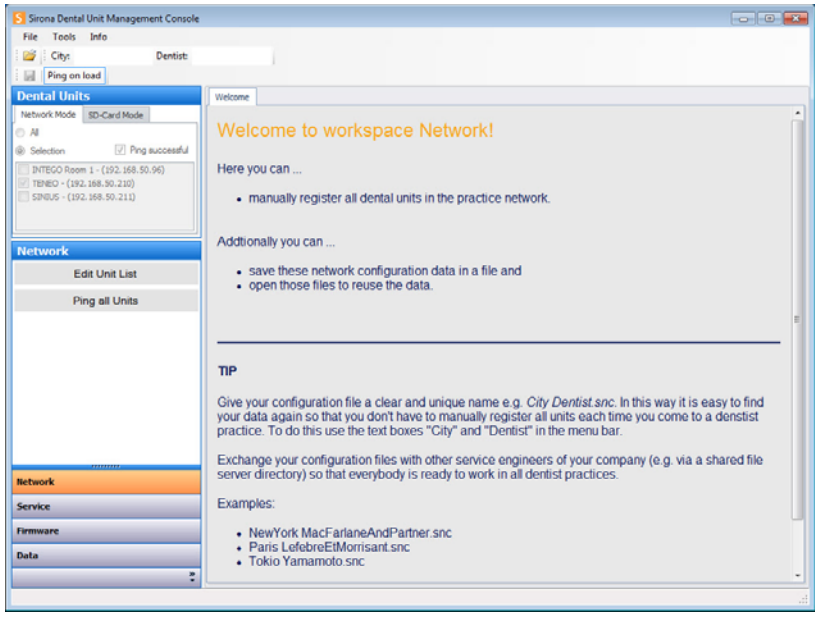
6.2.1 Starting the DUMC

➢ Start the DUMC by double-clicking on the application icon on the desktop.

or

➢ Click: *"Start"* → *"Programs"* → *"Sirona DUMC"* → *"Sirona DUMC"*

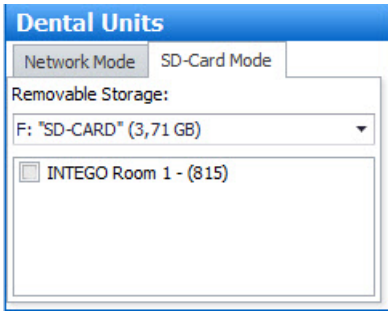
↳ The DUMC starts.


Sirona Dental Unit Management Console
File
Tools
Info
City:
Dentist:
Ping on load
Dental Units
Network Mode
SD-Card Mode
All
Selection
Ping successful
INTEGO Room 1 - (192.168.50.96)
TENEO - (192.168.50.210)
SINUS - (192.168.50.211)
Network
Edit Unit List
Ping all Units
Network
Service
Firmware
Data
Welcome
Welcome to workspace Network!
Here you can ...
manually register all dental units in the practice network.
Addtionally you can ...
save these network configuration data in a file and
open those files to reuse the data.
TIP
Give your configuration file a clear and unique name e.g. City Dentist.snc. In this way it is easy to find your data again so that you don't have to manually register all units each time you come to a denstist practice. To do this use the text boxes "City" and "Dentist" in the menu bar.
Exchange your configuration files with other service engineers of your company (e.g. via a shared file server directory) so that everybody is ready to work in all dentist practices.
Examples:
NewYork MacFarlaneAndPartner.snc
Paris LefebreEtMorrisant.snc
Tokio Yamamoto.snc

6.2.2 General operating concept of the DUMC

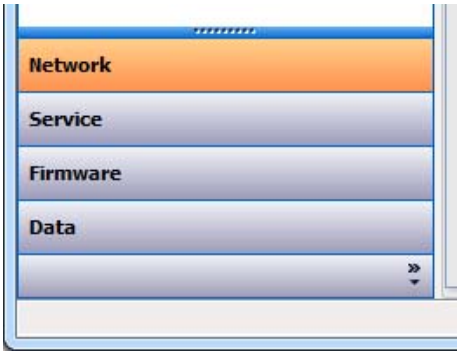
1. First select the desired function area in the navigation area *"Network"*, *"Service"*, *"Firmware"* or *"Data"*.
2. Select between network mode and SD card mode in the mode selection.
3. Select the treatment center(s) to be administered.
4. Perform a function, e.g. *"Read Service Memory"*, for the selected treatment centers.

Selecting mode

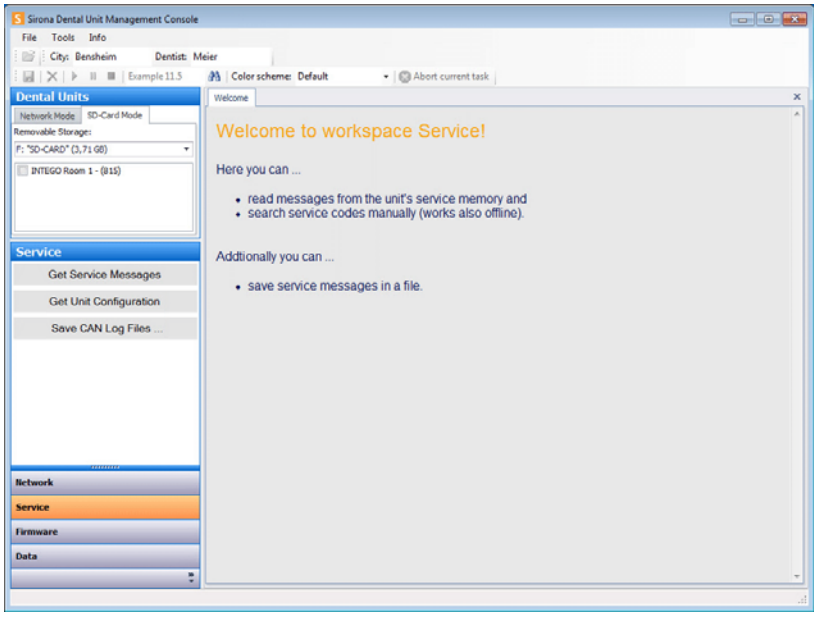


1. In the mode selection window click on the "SD cards mode" tab.
2. Select the removable media.

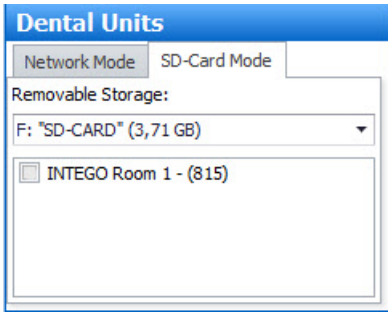
Selecting a function area



➢ Select the desired function area from the navigation area.



↳ The welcome screen for the selected function area appears in the dialog box with introductory information.



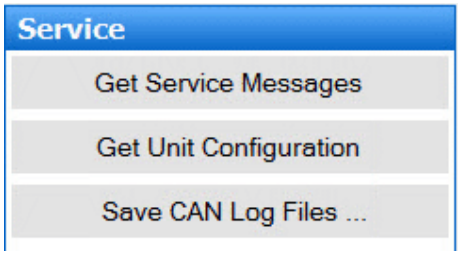
Selecting the treatment center(s)

The treatment center to be administered must be selected on the SD card. You can either select all treatment centers available on the SD card or select individual treatment centers. The functions will only be executed in the selected treatment centers.

In the selection window "removable media", the inserted SD card and the data volume available on it are displayed. The identified treatment centers are displayed below with the respective network configuration and/or service data.

Select the treatment centers on which the functions should be executed.

Selecting functions



Depending on the selected function area, you may have a choice of different functions. The figure on the left shows the functions of the *"Service"* function area as an example.

➢ Choose a function of the selected area. It may be necessary for you to select a file or enter a value in the text box.

↳ The corresponding function will be executed.

For details on the functions, please refer to the following sections.

6.2.3 Network navigation area

With the DUMC the network configuration date of the treatment centers can be changed or deleted via the SD card. To read out or save the data insert the SD card into the treatment center.
If no network configuration is saved on the SD card, the treatment center writes its own on to it.

6.2.3.1 Reading network configuration data

✓ The mode SD card mode is selected.

✓ The function area Network is selected.

➢ Click on the function Manage SD card in the function area.

↳ A new tab with a message window opens.

6.2.3.2 Changing/removing a treatment center

Changing a treatment center

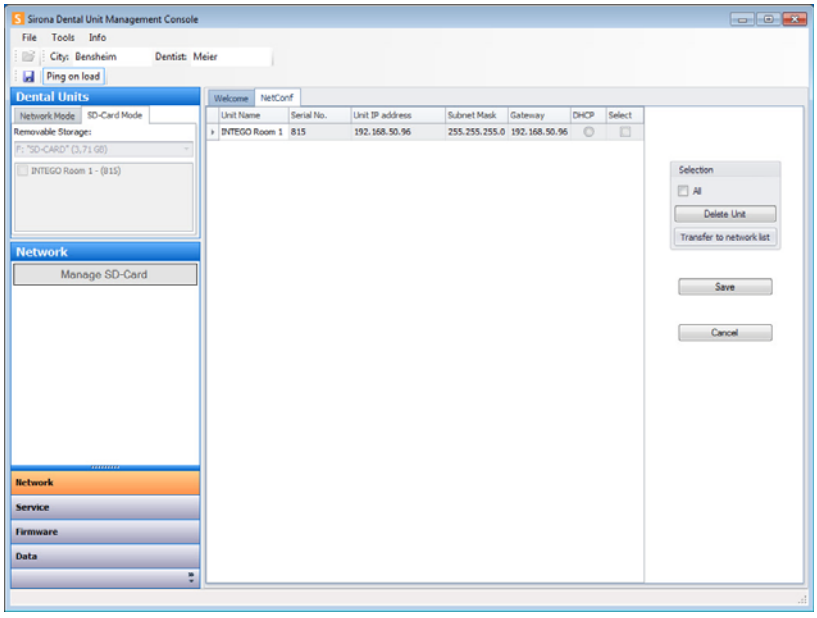
The name, IP address, serial number, subnet mask and gateway of the treatment center to be administered are recorded in a table.

✓ The SD card mode is selected.

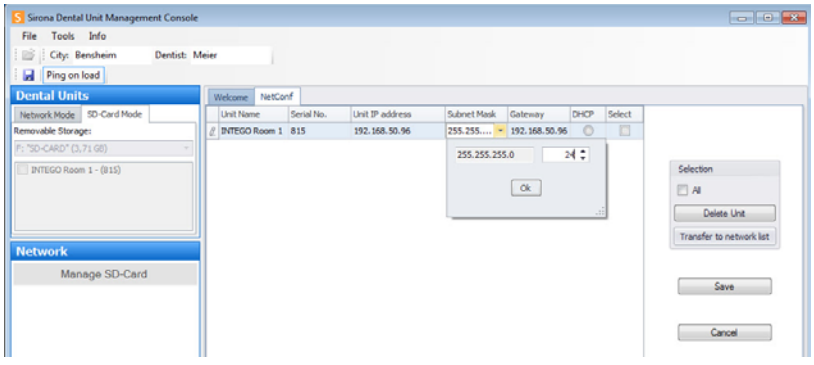
✓ The *"Network"* function area is selected.

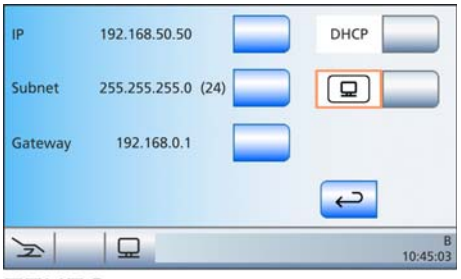
1. Click on the Manage SD card button in the function area of the DUMC.

↳ A new tab opens with a new message box.

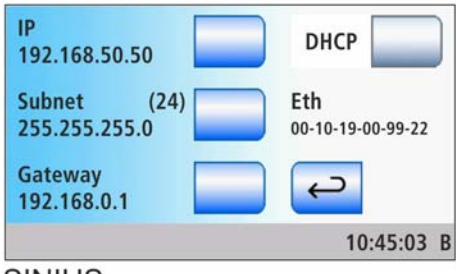


2. Enter the new name of the treatment center.





TENEO



SINIUS

3. Enter the new IP address, subnet mask and gateway of the treatment center to be administered with the DUMC.
   More details can be found in the treatment center's operating instructions under "Configuring the network connection".
4. Click the Save button to confirm the entered data in the DUMC and save it on the SD card.

or

➢ Click on Cancel to reject any changes that have not been saved.

↳ The treatment center is shown in the DUMC's device list with the changed data.

Tip: If a treatment center cannot be accessed over the network, this can be configured in the SD card mode. The configuration data can then be transferred to the network list to avoid duplicate configurations.

Removing a treatment center

You cannot undo the removal of treatment centers from the table. In this case, you would have to add the treatment center as a new entry.

1. Select one or more treatment centers in the table or place a checkmark in the selection box "All".
2. Click on the *"Delete Unit"* button.

↳ The selected treatment centers are removed from the table.

6.2.4 Service navigation area

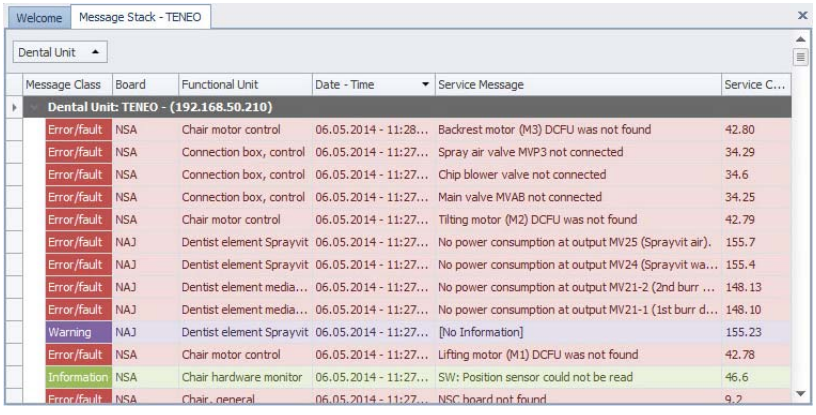
The service memory can be queried in the *"Service"* area.

IMPORTANT

Updating service messages

As part of its product maintenance efforts, Sirona continuously updates its service messages. It is important to regularly update the DUMC database to have access to the most current data when analyzing an error. See "Updating the service database" [→ 33].

6.2.4.1 Structure of service messages


Welcome
Message Stack - TENEO
Dental Unit
Message Class
Board
Functional Unit
Date - Time
Service Message
Service C...
Dental Unit: TENEO - (192.168.50.210)
Error/fault NSA Chair motor control 06.05.2014 - 11:28... Backrest motor (M3) DCFU was not found 42.80
Error/fault NSA Connection box, control 06.05.2014 - 11:27... Spray air valve MVP3 not connected 34.29
Error/fault NSA Connection box, control 06.05.2014 - 11:27... Chip blower valve not connected 34.6
Error/fault NSA Connection box, control 06.05.2014 - 11:27... Main valve MVAB not connected 34.25
Error/fault NSA Chair motor control 06.05.2014 - 11:27... Tilting motor (M2) DCFU was not found 42.79
Error/fault NAJ Dentist element Sprayvit 06.05.2014 - 11:27... No power consumption at output MV25 (Sprayvit air). 155.7
Error/fault NAJ Dentist element Sprayvit 06.05.2014 - 11:27... No power consumption at output MV24 (Sprayvit wa... 155.4
Error/fault NAJ Dentist element media... 06.05.2014 - 11:27... No power consumption at output MV21-2 (2nd burr ... 148.13
Error/fault NAJ Dentist element media... 06.05.2014 - 11:27... No power consumption at output MV21-1 (1st burr d... 148.10
Warning NAJ Dentist element Sprayvit 06.05.2014 - 11:27... [No Information] 155.23
Error/fault NSA Chair motor control 06.05.2014 - 11:27... Lifting motor (M1) DCFU was not found 42.78
Information NSA Chair hardware monitor 06.05.2014 - 11:27... SW: Position sensor could not be read 46.6
Error/fault NSA Chair, general 06.05.2014 - 11:27... NSC board not found 9.2

Service messages contain the following information:

"Message Class"
Classification of the service message by:

- *"Error"*
  An error has occurred
- *"Warning"*
  An error may have occurred
- *"Information"*
  Service information (no error)
- *"User Information"*
  Service messages displayed on the touchscreen.

Service messages are color coded according to their classification. The color scheme can be set via the *"Color scheme"* selection box in the toolbar.

"Board"
Acronym of the component that generated the service message

"Functional Unit"
Acronym of the functional unit that generated the service message

"Date - Time"
Time at which the service code was generated

"Service Massage"
Brief text for the corresponding service code

"Service Code"
Unique designation of the service code

6.2.4.2 Read out service memory

The function *"Read Service Memory"* reads out the service memory of the treatment center and shows it on the DUMC in the form of data records arranged in a table in the dialog box. The service memory records service codes that occurred during operation.

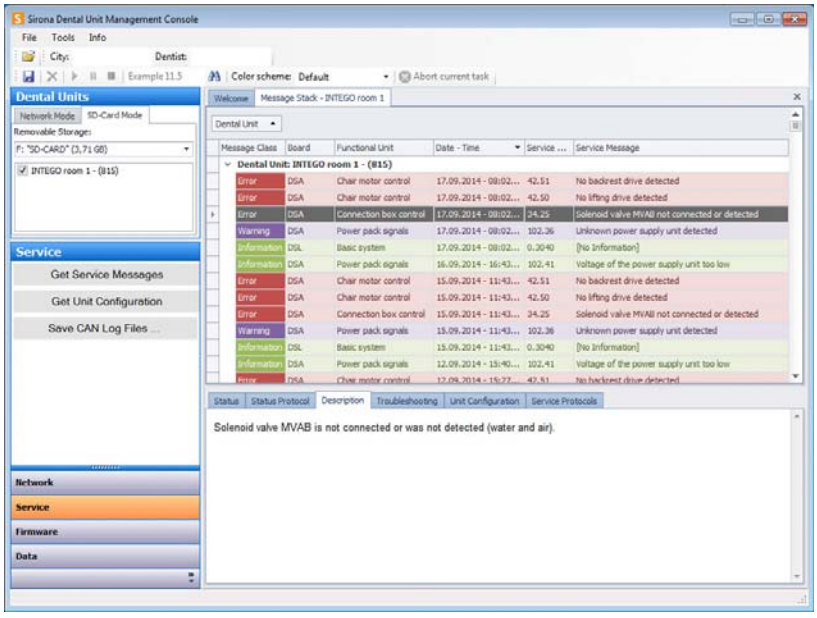
✓ The mode *"SD card mode"* is selected.

✓ The function area *"Service"* is selected.

✓ The required treatment centers are selected.

➢ Execute the function *"Read Service Memory"*.

↳ The service memory is read and shown in the dialog box.



6.2.4.3 Saving service messages

The service messages displayed in the dialog box can be saved as an SSM (Sirona Service Messages) file on any data medium. The file name and storage location can be freely chosen. This file can for example be sent to the technical department of the dental depot or to the Customer Service Center at Sirona by e-mail.

Saving in SSM file/Creating SSM file

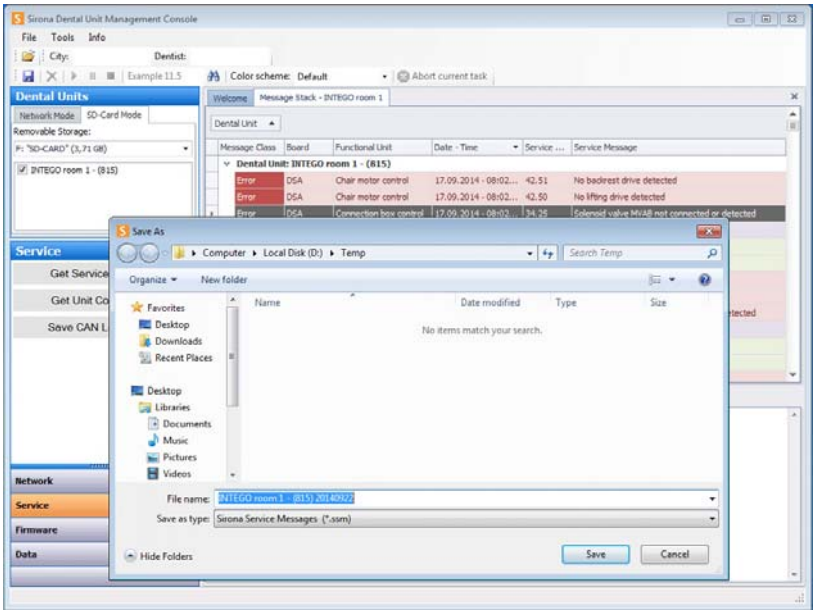
IMPORTANT

INTEGO: Do not change the name created for the SSM file!

In the case of INTEGO the file name is created by the system and must not be changed. The file name contains the serial number of the center and helps the Customer Service Center at Sirona to quickly identify and repair defective functions.

✓ The dialog box shows service messages, e.g. from reading the service memory of the SD card.

1. Click the *Save* icon on the toolbar.
   ↳ The *"Save as"* window opens.



2. Select a storage location and accept the suggested file name. Confirm with the *"Save"* button.
   ↳ The SSM file has been created.

6.2.4.4 Opening service memory file

Service messages can be inputted from the following file types:

- **SSM** / Sirona Service Messages file („*.ssm“)
- **SSC** / Sirona Service Card file („*.ssc“)
  (SD card internal service memory file)

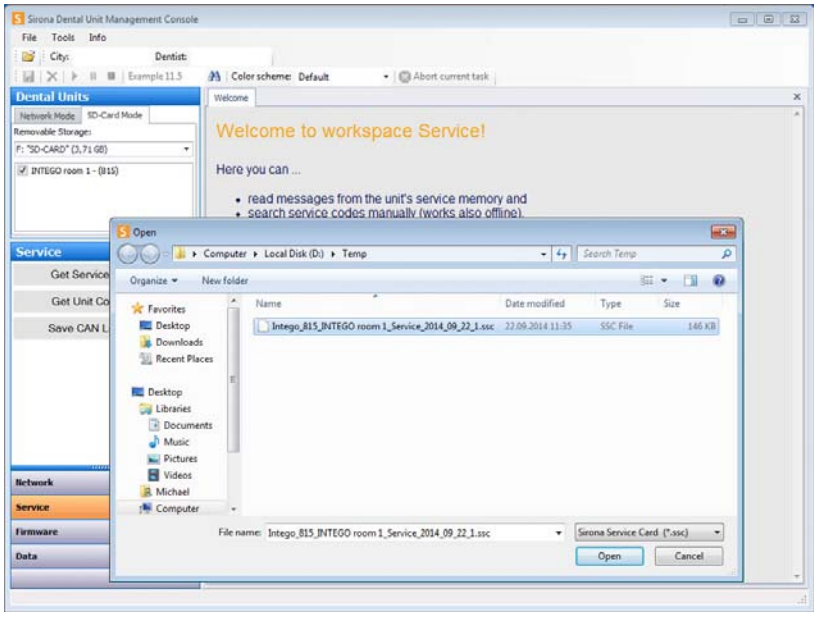
Presetting

The **SSC** (Sirona Service Card file) file type is preset in "SD cards mode".

If the **SSM** (Sirona Service Message file) file type is inputted, the "Sirona Service Message (*.ssm)" type must be selected in the file type selection field.

Opening *"Open"* window

1. In the *"File"* menu bar, choose the entry *"Open"*
   or
2. Click the *Open* icon on the toolbar.
   ↳ The *"Open"* window is displayed.
   ↳ In the *"Service"* area, the service messages saved in the file in the dialog box are displayed.



Selecting the file

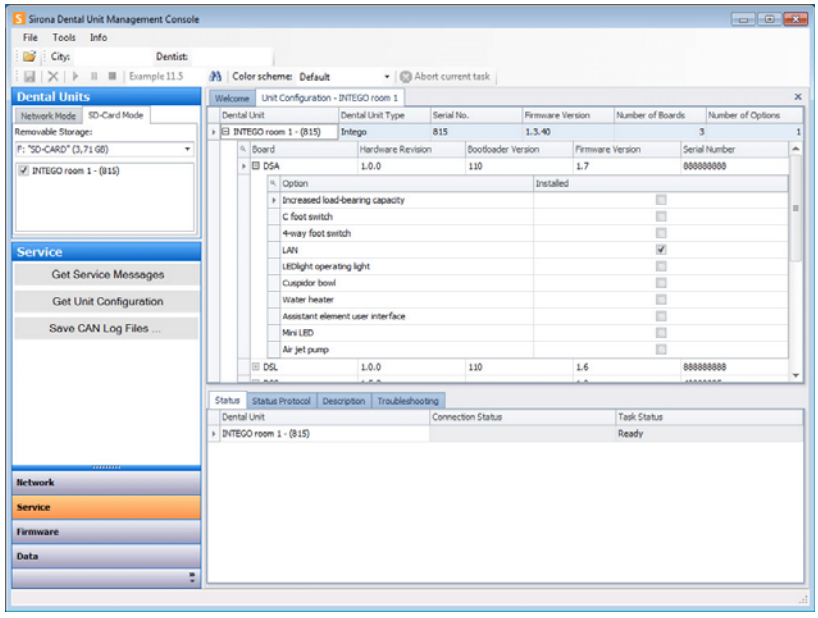
➢ Select the desired file and confirm it by choosing *"Open"*.
↳ In the *"Service"* area, the service messages saved in the file in the dialog box are displayed.

6.2.4.5 Get Unit Configuration

The function *"Get Unit Configuration"* returns the following information:

- Firmware version of the treatment center
- Treatment center identifier, type, serial number, hardware version
- Installed equipment options, for example, a third burr drive, X-ray film viewer, etc.
- Number of installed assemblies, for example, NSA, NAJ, etc., and number of equipment options

✓ The "SD cards mode" mode is selected.
✓ The *"Service"* function area is selected.
➢ Execute the function *"Get Unit Configuration"*.
↳ The configuration query is started. The configuration of the treatment center is displayed in the dialog box.



- In the case of function Read out service memory [→ 40] the configuration of the treatment center is queried automatically and displayed in a separate dialog box.
- In the case of function Saving service messages [→ 40] the configuration of the treatment center is also saved in the SSM file.

6.2.4.6 Save CAN log files

The function *"Save CAN Log Files"* should only be executed at the request of Sirona.

For diagnostic purposes the following information is saved as a SSM file on any data medium.

- Service memory
- Configuration
- CAN logfiles of the bus system

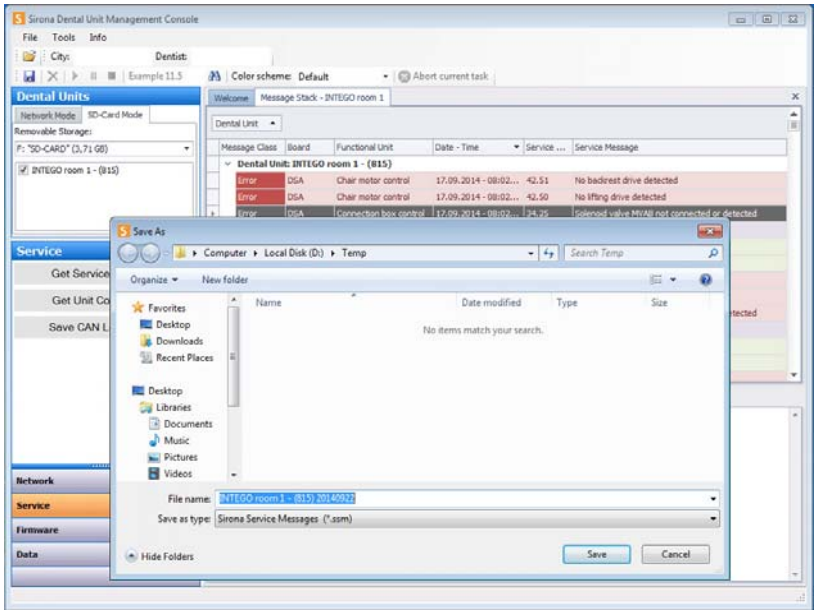
Depending on the amount of data this process can take 15 minutes or more. The amount of data can be reduced by regularly isolating the errors that occur.

✓ The "SD cards mode" mode is selected.

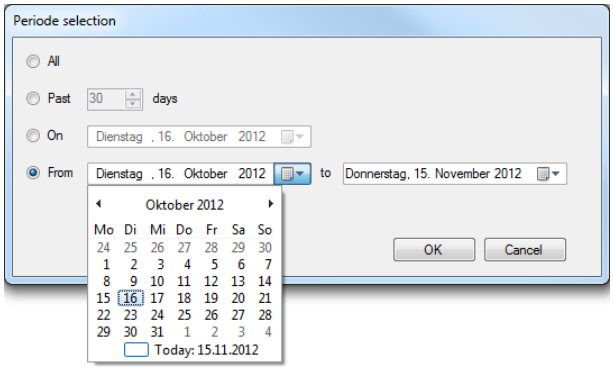
✓ The *"Service"* function area is selected.

✓ The required treatment centers are selected.

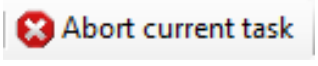
1. Execute the function *"Save CAN Log Files"*.
   ↳ The *"Save as"* window opens.



2. Select a storage location and accept the created file name. Confirm with the *"Save"* button.
   ↳ The *"Periode selection"* window is displayed.


Periode selection
All
Past 30 days
On Dienstag , 16. Oktober 2012
From Dienstag , 16. Oktober 2012 to Donnerstag, 15. November 2012
Oktober 2012
Mo Di Mi Do Fr Sa So
24 25 26 27 28 29 30
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31 1 2 3 4
Today: 15.11.2012
OK
Cancel

3. Isolate the time period in which the error has occurred. Confirm your selection by pressing *"OK"*.
   ↳ The SSM file is created. Wait until the process has been completed.



Saving of the data can be interrupted by clicking the *"Abort current task"* button in the toolbar.

IMPORTANT
Transfers that have been started are finished. Start the process again if necessary.

6.2.5 Firmware navigation area

Sirona continuously advances and improves the software of the treatment center (firmware). This service allows the firmware to be transferred to the SD card via the DUMC and then to be installed in the treatment center via the SD card.

6.2.5.1 Adding/removing firmware

Adding firmware

Software-related problems can often be solved by updating the firmware. As a first step, check whether the software is current before taking other actions.

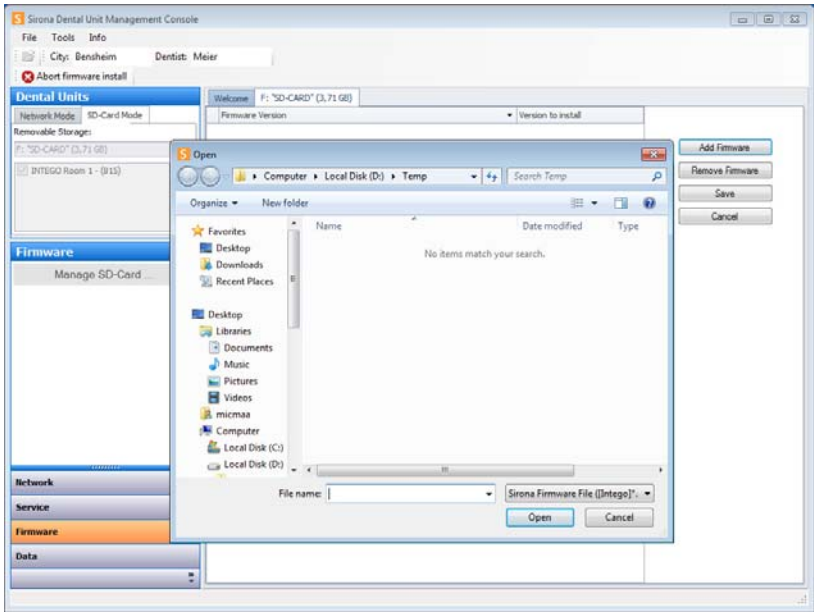
IMPORTANT
Select firmware prior to installation Make sure that the chosen firmware is selected with a checkmark in the dialog box. Only in this way can the treatment center recognize this as the file to be installed. If there are several firmware versions on the SD card, only the selected version will be installed. Each time the treatment center is switched on, it checks the SD card for a new firmware version and compares this with its own version. If the version number is higher than the one installed and if the firmware is selected, this is loaded in the treatment center.

IMPORTANT
Do not remove the SD card during the saving process Saving the firmware to the SD card may take several seconds. Remove the SD card only once the saving process is completed.

✓ The SD card mode is selected.

✓ The *"Firmware"* area is selected.

1. Click on Manage SD card in the function area.
2. Click on the Add firmware button.



➢ Select the desired "*.swf" file and click the *Open* button.

↳ The selected firmware is shown in the dialog box.

➢ Click the Save button to save firmware on the SD card.

Removing firmware

Firmware that is already on the SD card can be removed from the SD card. The firmware removed from the table cannot be restored.

1. Select the desired firmware in the table.
2. Click on the Remove firmware button.
3. Click on Save.

or

➢ Click on Cancel to reject any changes that have not been saved.

↳ The selected Firmware is removed from the SD card.

6.2.5.2 Installing firmware

✓ The current firmware supplied by Sirona is saved on the SD card.

⚠ WARNING

Once the connection box has been opened, cables and electrical components are exposed.

Improper handling may endanger the product safety of the treatment center. This may invalidate warranty claims. The treatment center must only be opened by a Sirona-authorized service engineer.

1. Switch the treatment center off.
2. Unscrew the cover over the connection box.
3. Insert the SD card in the slot provided. [→ 6]
4. Switch the treatment center back on.

↳ The firmware is installed.

6.2.6 Updating the service database

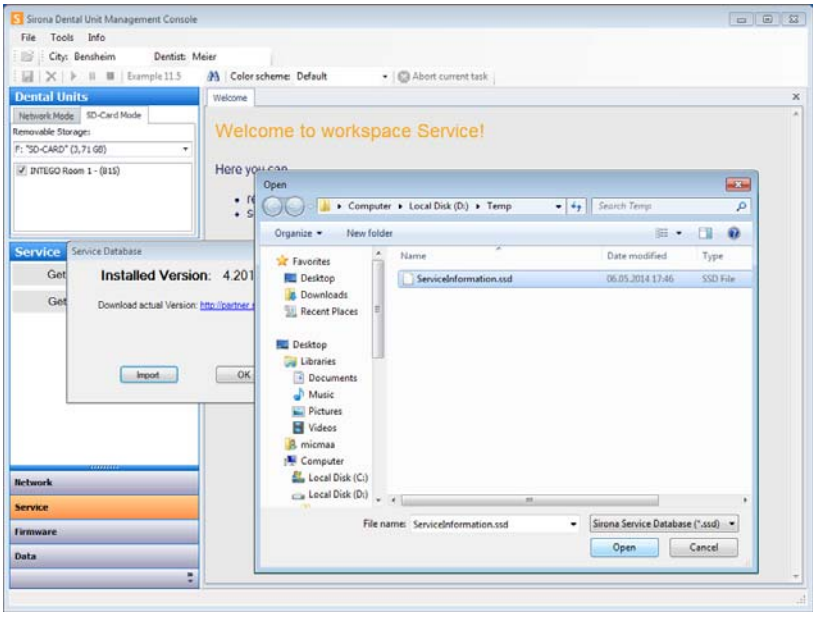
Together with the installation of the software, the system creates a database in which service codes, error descriptions and notes for troubleshooting are stored. As part of its product maintenance efforts, Sirona continuously updates this database. It is important to regularly update the DUMC database to have access to the most current data when analyzing an error.

You can download a current version of this database from Sirona by clicking on the link in the *Service database* window. This requires login data for the Sirona dealer area.

✓ The current copy of the service database is installed on the PC.

1. In the *"Utilities"* menu bar, choose the *"Service Database"* entry.
   ↳ The *"Service Database"* window appears.

IMPORTANT
Version of the service database In the *"Service Database"* window, the current version of the service database is displayed in the following format: Month.Year:Version



2. Click on the *"Import"* button.
   ↳ The *"Open"* window appears.
3. Select the (downloaded) SSD file (Sirona Service Database) and confirm it by clicking on *"Open"*.
   ↳ The service database is updated. The new version is displayed in the *"Service Database"* window.

6.3 Find service code

The service memory may also be viewed in the service area of the setup screen directly at the treatment center. To find the corresponding error

descriptions and notes for troubleshooting, enter the service codes displayed on the touchscreen into the DUMC database.

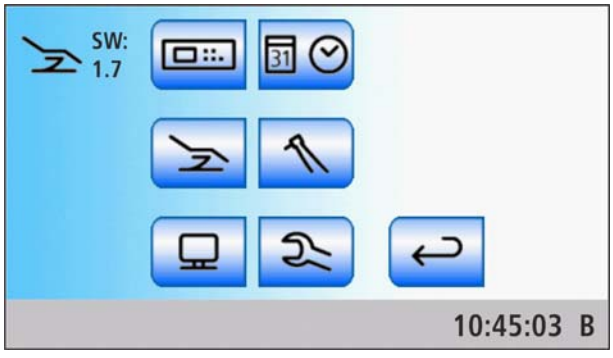
This function does not require a network connection between the DUMC PC and the treatment center.

Displaying service codes at the treatment center

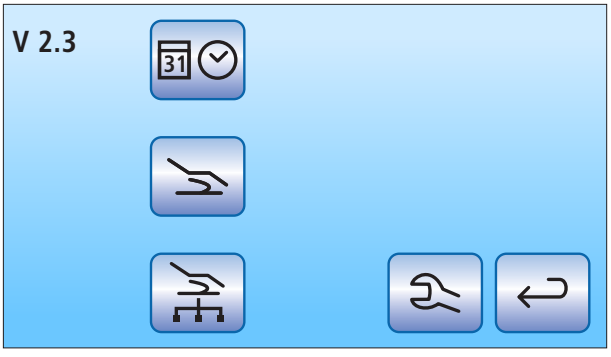
✓ All instruments are in place.

1. Press and hold the *Setup* fixed key on the dentist element (> 2 s).

Setup programs [TENEO]



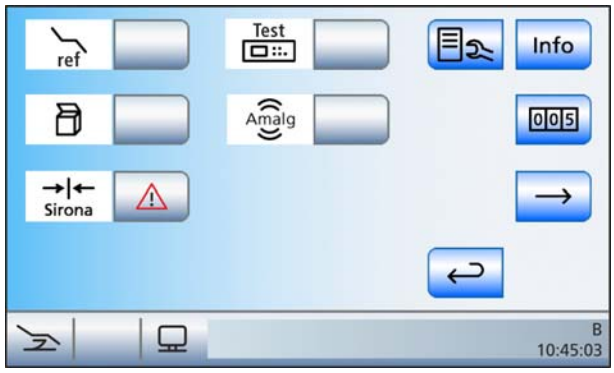
Setup programs [SINIUS]



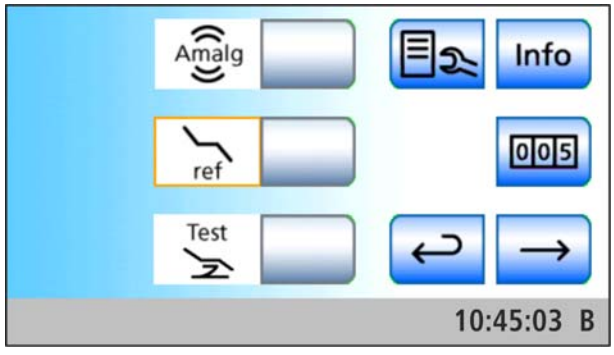
Setup [INTEGO]

↳ Six setup programs are offered for selection.

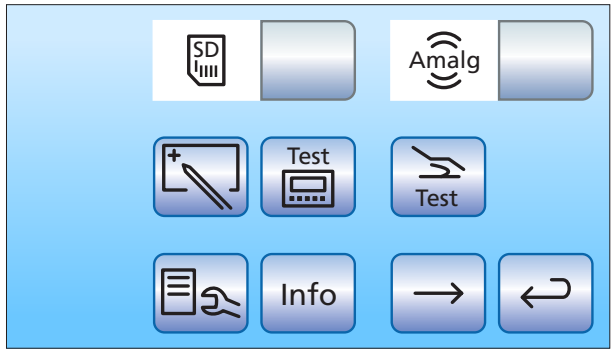
2. Touch the *Service area* key.



Service dialog box [TENEO]



Service dialog box [SINIUS]

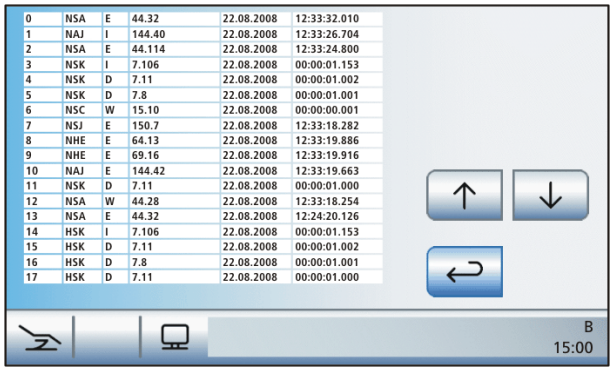


Service dialog box [INTEGO]

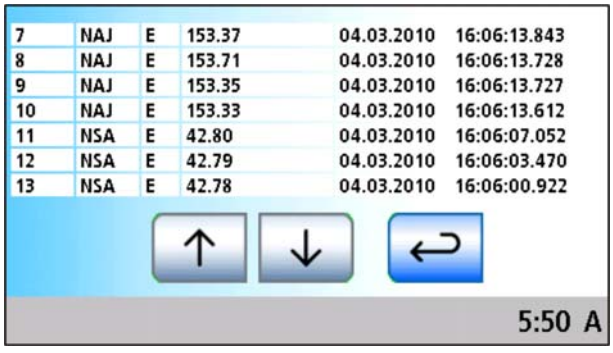
↳ The Service dialog box opens.

3. Touch the *Service memory* key.

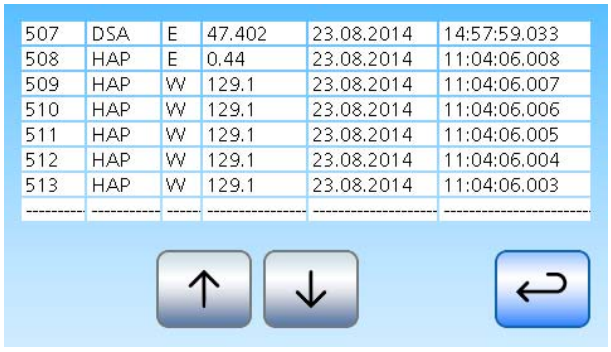
IMPORTANT
INTEGO's service memory shows *error* and *warning* messages. The service memories for TENEO and SINIUS also show *user information*.



Service memory [TENEO]



Service memory [SINIUS]

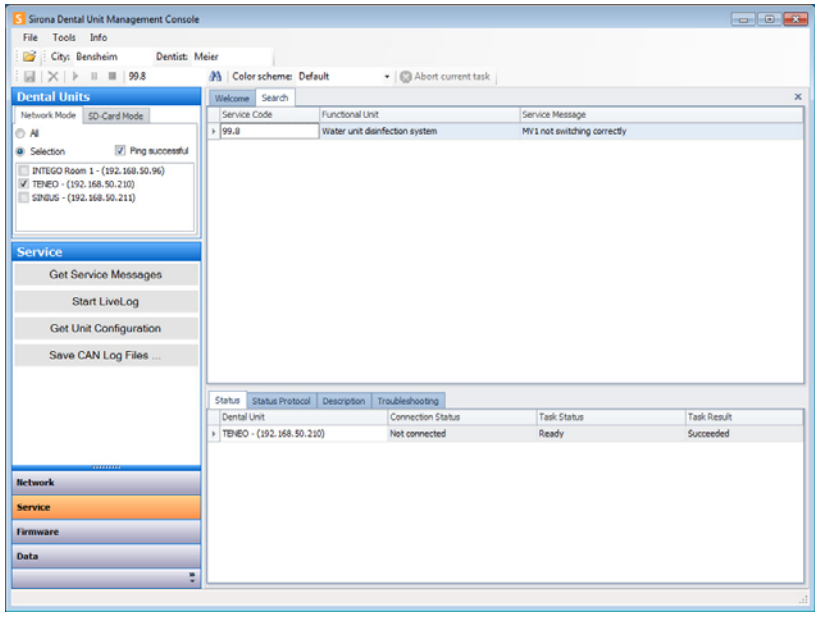


Service memory [INTEGO]

↳ The service memory is displayed as a list on the touchscreen.

Searching for service codes in the DUMC database

✓ The *"Service"* function area is selected.



1. Enter the service code displayed on the touchscreen in the text box. The text box for service codes is located in the toolbar.
2. Confirm your database query with the Enter key.
   ↳ The corresponding service code is shown in the dialog box. The tabs of the message box below display a description of the error and notes for troubleshooting.

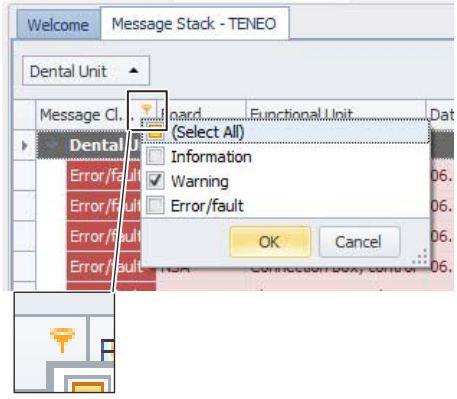
6.4 Filtering, sorting, and grouping data records

The purpose of these functions is to get a better overview of the data records in the dialog box for message evaluation. The individual functions can be performed repeatedly or combined.

The dialog box must show data records, e.g., from reading out the service memory or LiveLog.

Filtering

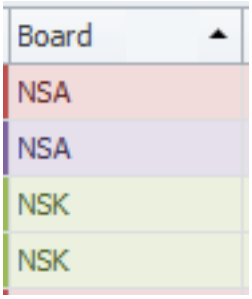
The filtering function displays only those data records that meet one or several filter criteria.



1. In one of the columns of the table header in the dialog box, click the *Filter* button (funnel symbol).
   ↳ This opens the *Filter criteria* selection window.
2. Select one filter criterion or a number of filter criteria. Confirm your selection by pressing *"OK"*.
   ↳ All data records that do not meet the requested filter criteria are hidden. As long as a filter is activated in this column, the *Filter* button will be visible.
3. Select additional filter criteria in another column if necessary.

To remove a filter again, select the entry *Show All* in the *Filter Criteria* selection box for the required column.

Tip: You can change the size of the selection box in the dotted triangle in the right-hand corner of the box.



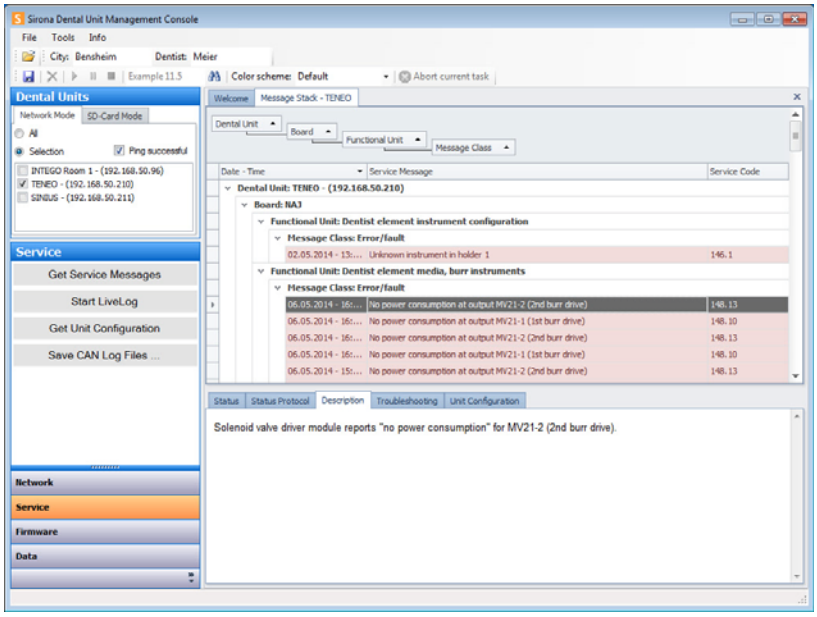
Sorting

The sorting function displays the data records in ascending or descending order in accordance with one or several criteria.

1. In one of the columns of the table header in the dialog box, click the *Sort* button (triangle).
   ↳ The displayed data records are sorted in ascending order.
2. To reverse the sorting order click the *Sort* button again.

Grouping

You can use the grouping function for nesting data records in accordance with one or several criteria. The groups can be expanded or collapsed in the dialog box.



1. Drag a column of the table header in the dialog box to the grouping area above.
   ↳ The data records are combined into the necessary groups and displayed in nested format.
2. If applicable, drag another column into the grouping area.
3. You can also shift the grouping criteria in the grouping area to change the grouping sequence.
   ↳ This rearranges the groups.

To undo grouping, drag the corresponding grouping criterion out of the grouping area.

We reserve the right to make any alterations which may be required due to technical improvements.

© Sirona Dental Systems GmbH 2014
D3509.076.02.10.02 10.2014
Sprache: englisch
Ä.-Nr.: 119 794
Printed in Germany

Sirona Dental Systems GmbH

Fabrikstraße 31
D-64625 Bensheim
Germany
www.sirona.com

in the USA:
Sirona Dental Systems LLC
4835 Sirona Drive, Suite 100
Charlotte, NC 28273
USA

Order No **61 94 497 D3509**